



DELHI UNIVERSITY
LIBRARY

DELHI UNIVERSITY LIBRARY

Cl. No.

R11 - HS

Ac. No.

46181

Date of release for loan

This book should be returned on or before the date last stamped below. An overdue charge of 5 Paise will be collected for each day the book is kept overtime.

THE IRRADIATION OF LIFE AND THOUGHT

By the same Author :

I. THE INDUCTIVE CONCEPTION OF LIFE.

(Translated into English by H. E. Kennedy, B.A.)

THE IRRADIATION OF LIFE AND THOUGHT

by

ENZO LOLLI

Translated by

H. E. KENNEDY, B.A.

RIDER AND COMPANY

68 Fleet Street, London, EC4

NEW YORK MELBOURNE SYDNEY CAPE TOWN

*Printed in Great Britain at
The Fleet Street Press
East Harding St., EC4*

CONTENTS

Chapter	PAGE
TRANSLATOR'S FOREWORD	xi

GENERAL INTRODUCTION

THE PRINCIPLE OF INDUCTION	1
--------------------------------------	---

- (1) *The rhythmicity of life—The principle of induction.*
- (2) *The pulsative movement of the induced subject and induced neural force—The terms neural and neurality—Inductive neurality and induced neurality—The degradation and limitation of induced neural force as compared with the inductive force.*

FIRST PART

INTRODUCTION TO AN INDUCTIVE PSYCHOLOGY

I SENSATION	3
-----------------------	---

- (3) *The general theory of sensation in accordance with the principle of induction.*

II SLEEP, DREAMING, SUGGESTION, HYPNOSIS, INTERPRETED IN ACCORDANCE WITH THE PRINCIPLE OF INDUCTION	6
--	---

- (4) *Induction and the phenomena of psychic life in general. Variation of somatic characteristics and sleep—Pulsation and induction—Drowsiness—Natural awakening and gradual resumption of consciousness.*
- (5) *Sudden awakening—Dreams—Personality in dreams—The passage of time during awakening. First allusion to a conception of time connected with induction—The intoxication of speed and whirling movements—(Dancing, the merry-go-round, dancing dervishes), and of rhythmic movement.*
- (6) *Emotions in sleep and dreams—Narcotics—Willed awakening—Grasping and solution of problems in sleep—Physical means of intensifying induction (ablutions, respiration, etc.)*
- (7) *Daytime sleep and the results of environment—Oscillation more marked in superior persons—Artificial excitement of induction—Its excitement among students—Its excitement by fever—Lateral oscillation—Attention and distraction—Reverie—Prolonged awakened state—"Pavor nocturnus." Somnambulism.*
- (8) *Hypnotic sleep—Reciprocal suggestion as the base of social life—Hypnotism—Artificial somnambulism and the transmission of thought—The principle of induction the key of psychological life.*

CONTENTS

SECOND PART

INTRODUCTION TO A THEORETICAL INDUCTIVE PHILOSOPHY

Chapter		PAGE
III	CONVENTIONAL REALITY	21
	(9) <i>The world as induction—Stimulation and sensation—The exterior world and consciousness—A bridge over the abyss between stimulation and sensation—Problems of both sides.</i>	
	(10) <i>The undemonstrability of a world exterior to thought—Thought as a manifestation of universal energy—The necessity for a material subject of induction for the production of this manifestation.</i>	
	(11) <i>Given that matter exists, does it exist really or as an illusion?—Explanations by means of the various Indian plans. Recognition of dualism which has practical effects—Admission of conventional reality.</i>	
	(12) <i>Afflux of conventional reality to the consciousness—The present world—The potential known world—The potential unknown world—The ocean of nothingness—The eventual amplification of the receptive possibilities of the induced subject.</i>	
IV	LIFE AND INDUCTION	28
	(13) <i>The beginning of life—The initial movement in vegetables; lower animals, higher animals and man—Beginning of a new life in Dante's poem—Life and induction.</i>	
	(14) <i>The disturbing and reducing factors in induction—Faults in the material and form of the structure—Fluidity and dynamism—Auto-induction—Effects of induction by others and tropist effects due to changes in the inducing sphere.</i>	
	(15) <i>Nonhomogenous partition of induction—Classification of the different forms of induction according to their depth—Limited Expansiveness of induction—The improvement of induction.</i>	
V	CONSCIOUSNESS	34
	(16) <i>The degrees of consciousness—The transition from animal induction to human induction—The inferior form of induction: tropism or the direct effect of a variation in the inducing field—Tropist effects in man likewise.</i>	
	(17) <i>Impulses due to sensation—Impulses connected with images, emotions, sentiments, instinctive impulses—Instinct and the instinctive act—The neuro-motor force (the will), conscious or superior—The composition of the various neuro-motor forces deriving from the various impulses—Tropism, the senses, instinct reason—Schopenhauer's distinction between will and wilfulness—The gradations of manifestation of the will as a neuro-motor force—Induction, a unitary process.</i>	
	(18) <i>The gradually increasing complexity of consciousness: among animals: in the various functions of man: in the development of the child—The individualization of consciousness—Subjectivism—Anthropocentrism and egocentrism—The universalization of consciousness and knowledge.</i>	

CONTENTS

Chapter		PAGE
VI	KNOWLEDGE	44
	(19) Knowledge is an interior modification of induction, caused by exterior factors—The two ways by which the conventional reality of the exterior world reaches the consciousness—Relative knowledge—Pure higher intuition, regarding higher worlds and pure lower intuition regarding the conquest of reality by a way independent of the senses—The remarkable presence of this second form of intuition in women.	
	(20) Knowledge through contact with the ordinary, everyday world. The flash of intuition—The preparation of the senses and conceptual elaboration—Knowledge is a homologous disposal of induced forces and currents which renew the exterior world in us—Everything that cannot be thus renewed is nothingness—Memory—Facility of renewing the exterior world—Various modalities of knowledge according to individual differences.	
	(21) The subject and the object are two variables "in a world of variables"—The instantaneously established homology between subject and object—Every being in the world subject to induction influences the others and is influenced by them—The situation of that world is unstable.	
VII	THE CONCEPTIONS OF TIME AND SPACE ARE UNSTABLE—CREATION	52
	(22) Time connected with induction—A moment and eternity—Mean time regulated by mean induction and by the mean manifestation of the phenomena of the solar world—Time on a nebula—The individual variant of time—The stoppage of time in the chase, with fakirs, while frozen, in the episode of Jashua, in war.	
	(23) Space—The dot and immensity—Mean space regulated by mean conditions in which induction develops—The source of induction beyond all time and space.	

THIRD PART

INTRODUCTION TO A PRACTICAL INDUCTIVE PHILOSOPHY

FOUNDATIONS OF AN OBJECTIVE MORAL CODE

VIII	THE NEURAL REFRACTIONS	56
	(24) The inducing source—The sun—Light and warmth, emanations of the sun on the terrestrial plane—The good and the beautiful emanations of God in the world subject to induction—Distinction between the neural manifestations, and their grouping into seven basical refractions—The pleasant, the harmonious, the beautiful, the good, the just, the logical, the true. The supra-pleasant and the ultra-true.	
	(25) Pleasure and natural enjoyment in women through contact with nature among primitive peoples—The harmonious, dance, heroic measure, rhythm—The beautiful: Art—Various combinations of these three refractions and of good. The just, the logical, the true.	

CONTENTS

Chapter		PAGE
	(26) <i>Refractive and neural diagram of the different human types—Social and neural diagram—The inward nature of refraction—The impossibility of knowing any induced manifestation beyond refraction—The fundamental concept of a conception of the world as induction—We live in the induced flux and not in the inductive flux.</i>	
IX	INDIVIDUAL NEURAL PLANS—APPENDIX: THE CASE OF NIETZSCHE	62
	(27) <i>Degradation of neural manifestations—Causes of deviation or dispersion—Plan for a new natural and objective ethical code—Individual neural plans—Note on the upper and the lower, the right side and the wrong—The auto-regulative power within certain limits—The individual neural plan of limitation—The impossibility of exceeding it.</i>	
	(28) <i>Appendix—The Nietzsche case—Natural greatness of Nietzsche's individual neural plan of limitation—Effort to compress this plan—The violent reaction of the psychophysiological organism—The inevitable crumbling of the organism.</i>	
X	THE TWO SOURCES OF SOCIAL INDUCTION	67
	(29) <i>The fourth and most important disturbing element in induction: The effects of social induction—Two sources of social induction: Complex neural forces and individual neural forces—Substantial divergence from Bergson's plan—The inner moral life of man.</i>	
	(30) <i>The necessity of social induction—The satisfaction connected with the increase of induction, the despair connected with its diminution—The moral life among simple folk, among children, the ignorant, the shepherds—Mere social pressure connotes a narrow pharisaic legalism—The revealing efficacy of our inward self as shown in moral heroism—The reducing effects of induction by social forces as compared with Divine induction—It is not efficacious for long—"Mittatio Socrates" and "Imitation Nerons"—The so-called moral law of evil—Evil as an anti-refraction—The real victim of evil is the evil-doer.</i>	
XI	THE MEAN PLANE	71
	(31) <i>The average plane corresponding to the average morality which proceeds from two sources—The attractive force of the plane—Classification of induced subjects in accordance with their conduct compared to the average—The positive zone between the average neural plane and the individual neural plane—The negative zone—Remorse and the restraints of conscience.</i>	
XII	THE ELEMENTS OF SOCIAL INDUCTION—I. INDIVIDUAL INDUCTIONS	74
	(32) <i>The constitution of an average plan—The average plan in a crowd, in parades, ceremonies and reviews—The constitution of an average plan and the composition of forces in a group—Sympathy—The composition of forces in stable groups—The inducing power of the mass—The case of religious orders—There is an elevating, optimistic tendency in spite of continual delusions—The individual elevation of man.</i>	

CONTENTS

Chapter		PAGE
XIII	THE ELEMENTS OF SOCIAL INDUCTION—II. NEURAL CONSTRUCTIONS	76
	(33) <i>Neural construction, the totality of neural forces, the stabilising element in the average neural plan and in the average median of action of the inductive flux—Neural construction connected with the different refractions—Religious neural construction of a natural type—"The real" as an individual induced element of all neural construction—The visions and ecstasies characteristic of the different religious neural constructions.</i>	
	(34) <i>The state as a living structure—The universality of Rome—The refraction of justice, the axis of the neural structure of the state—The degeneration and death of neural structures. The initiation of new structures—Initial neural contacts which are the sources of new energy-thought—Neural whirlwinds—Ancient and modern induced truth.</i>	
XIV	THE MACHIAVELLIAN MIRAGE AND THE ILLUSION OF INDIVIDUALITY	82
	(35) <i>The moral code is a conscious adaptation to the essence of the world—Natural instinctive adaptation—The transition from an instinctive adaptation to a confused and illusory reasoned adaptation—The myth of original sin—Conscious adaptation and pure intuition—The obscure zone of the intellect—Mirages—Doing evil that good may come—Machiavelli, Torquemada, Robespierre, "Donna Prasseda"—The inanity and illusory character of every effort to obtain good through evil—Neural waves.</i>	
	(36) <i>Neural super-tolerance—The duties of elders—The illusion of singularity—Necessary adaptation to less-developed mentalities—The presentation of religious truth in a philosophic form—The truth of all religions—Simple and imaginative forms adapted to the people—The fundamental identity and necessary multiplicity of forms and rites—The pure monotheistic Abrahamic conception and the Vedic conception—Groups of derived religions—A human monument to the greatness of God.</i>	
XV	THE ILLUSION OF MATERIALITY	90
	(37) <i>The search for good where it is not—The dynamic concept of satisfaction—Schopenhauer's aspiration without aim or end—Pain is not essential—Happiness cannot be attained but man is happy while he seeks to attain it—Boredom—The transposition of the satisfaction inherent in movement to the object which causes it—Satisfaction and the refraction of the pleasurable.</i>	
	(38) <i>Pure refraction of the pleasurable—Alpinism and war—Objectivation in the refraction of the beautiful—The materiality of pictures and works of art in general—Objectivation in other refractions—The deep roots of the illusion of materiality—The way of salvation in pure intuition.</i>	
XVI	THE ILLUSION OF THE SEPARATE "EGO"	96
	(39) <i>The natural formation of illusions—The separate "ego"—Fear and pain the guardians of induction—The sacrifice of individual induction to a higher induction—Fear is an essential element in life—The apprehension of death—The innate sense of immortality—Night fears—The diurnal and seasonal variation of the inducing sphere—The adoration of the sun and the moon.</i>	

CONTENTS

Chapter	PAGE
(40) <i>Apprehension, embarrassment, reverence, timidity, as reduced forms of fear—Distrust—Fear becoming aggressiveness—Vanity, pride, haughtiness, insolence, oppression, tyranny—Superiority knows not pride—The true primacy, even political—Lying—Envy—Slander—The use of slander—Anger—Indignation.</i>	
(41) <i>The sense of propriety—Avarice—Prodigality—The thirst for esteem — Power — Stupidity — Religious collectivities — Recapitulation—Mirages and illusions.</i>	

FOURTH PART

THE INDUCTIVE CONCEPTION OF GOD

XVII	GOD IS TRANSCENDENT AND IMMANENT	108
	(42) <i>The interlacing of the conceptions of transcendence and immanence—Complementary conceptions conatural to the human soul.</i>	
XVIII	THE INDUCTIVE CONCEPTION OF GOD	112
	(43) <i>Definite synthesis of two conceptions—The deification of man—A PRAYER.</i>	

TRANSLATOR'S FOREWORD

THE author sets out to show that, as the earth is not the centre of the universe, so the human ego is not the centre of the universe either.

Commenting on the views of Hegel and Nietzsche, he stigmatizes them as the cause of present day materialism, utilitarianism and violence. He takes, however, what is best in Hegelianism and Nietzscheism and fits it into his own conception of the universe.

All life, thought, spirituality and pleasure come from on high, through a series of refractions, combinations and interferences. They flow continually from a source beyond time and space. By means of their flow we are vivified, raised above our daily miseries and given the sublime hope of a goal when our efforts end.

Their flow is called by the author *induction*, which, in one of its dictionary meanings signifies: "The transfer of an electric or magnetic state from an electrified body to a non-electrified one, by proximity without contact." The author gives the name *induct* to any person or thing acted upon by induction.

GENERAL INTRODUCTION

THE PRINCIPLE OF INDUCTION

(1) IN accordance with our hypothesis life is a phenomenon of induction.¹

If life is a phenomenon of induction the secret of life is in pulsation, in rhythm, in beats.

Actually we always find a non-continuous movement at the base of life, varying periodically from zero to the maximum, and that both when we have to do with the contractive movement of the protoplasmic mass and with the rhythmic contraction of vital lymph.

It is to this non-continuity, this alternation, this pulsative rhythm that life corresponds; life is induction of the surrounding field, induction which stops immediately when pulsation ceases, and is renewed immediately when pulsation is resumed, provided that the structure of the induct has not been damaged meanwhile.

The principle of induction consists of this identification of life with induction. It is a fundamental principle which explains the behaviour of life and its manner of manifestation, from the lower vegetable and protozoic forms up to the higher forms of the soul, consciousness and moral life.

(2) If we consider the pulsative cell as an induct, moving in a field of energy, we shall see that its rhythmic movement gives rise to an interior, induced force, which is individualized, a force related to the inductive force, distinct from it but dependent upon it though it has its own life.

If from the cell we pass on to more complex organisms, vegetable and animal, and to the psycho-physiological structure of man, we find the successive inducts to be more and more complicated and, in consequence, always adapted for receiving the induced force.

We will call the force thus induced into structures of appropriate form neural force or *induced neurality*, for its most striking manifestation, or at least that which is the most important for us, takes place in our psycho-physiological structure, that is in the neural system of man—though besides it there are other manifestations, equally imposing, and even more so.

This name is justified and would remain appropriate even if later on the manifestation induced into the human neural structure was found to be of less importance than other manifestations, just as the term electricity rightly recalls the phenomenon which formerly appeared to be most striking, that is the fact that certain light bodies were drawn by rubbed amber. This phenomenon has become quite secondary when compared with the sum of electric phenomena brought to light by the revelation of the new force.

Similarly we call the inducing force *inductive neurality* or inductive neural force, even if it is quite exterior to the neural structure, because

¹ See the first volume: *The Inductive Conception of Life*.

it, too, is revealed to us chiefly through the manifestations of neurality, to which it can give rise in the human induct.

The inducing force or inductive neurality in general is that force which has the whole world for its field, and which causes the various manifestations of induced force in all the inducts within its field of action.

But every neural force is also an inducing force, for it originates on its own account an individual field of force, and becomes in its turn inductive for all the inducts situated in its own field.

If the world is a field of neural force everything in it is subject to induction, of course to very different extents in accordance with the characteristics of the form, material and movement of the receiving apparatus.

Let us confine ourselves for the moment to man. Man is, then, in accordance with the hypothesis stated, a neural induct, or in other words he develops, under the action of the inductive fluxes (universal as well as individual) an induced neural force. It is this force which, in accordance with the characteristics of form and material of the induced structure and the type of its rhythmic movement, causes, by means of its relation to the inducing field of force, those neuro-motive forces and neural currents which give life to the organism and constitute consciousness in its higher types.

This induced neural force, though it is the greatest known at present, is far from being the equal of the inductive neural force. It is limited in the first place by the neural structure which receives it. Due to its conformation it can only receive vibrations from red to violet, it can only receive the part of induced neural force which it is constituted to receive.

In the second place, even in the limits within which the neural structure can induce itself or be induced, the induced neural force becomes degraded and remoter from the inductive force for several reasons which we will give briefly:

(i) The structural characteristics of the induced apparatus, even if it could be faultless and perfect. By the very fact of its existence this apparatus is subject to limitation, to losses between inductive and induced energy. We have here to do with something fixed and immovable, to which we are inevitably bound until, at least, we find instruments or methods adapted to modifying it.

(ii) The individual faults of the structure, that is, visible and invisible physical blemishes.

(iii) The reaction of the Induct, with its own auto-induction, the losses due to interior currents, etc.

(iv) The various reciprocal actions and reactions with other induced forces, actions and reactions, which we can place in two great categories: those which proceed from individual induced forces and those which proceed from complex social forces, which proceed in their turn from groups and compounds of individual forces.

FIRST PART

INTRODUCTION TO AN INDUCTIVE PSYCHOLOGY

CHAPTER I

SENSATION

(3) ADMITTING that man is a neural induct, how can he stimulation of the senses act on the individual consciousness? In the first place, what, according to our hypothesis, is consciousness? It is one of the manifestations, and undoubtedly the most important, of induced neurality which takes form in every individual structure when the latter is placed in the field of force of universal neurality (and also of individual neuralities).

But in the first instance, what is the stimulation of the senses? The stimulation of the senses is nothing but a physical or chemical agent, acting on the extremities of the nervous conductors. This agent, causing an alteration, and in consequence, variation of current either in the conductors themselves or in the interior of the neural system, gives rise to an actual variation in induction in our psycho-physiological structure, taken, of course, as an induct placed in the centre of a field of force.

The stimulation is not, thus, the real cause of the sensation, but is only the cause of the variation in the conditions of the induct, upon which depends the variation in the induced neurality, that is to say, the consciousness: that variation constitutes sensation.

The quantity and the characteristics of the neurality depend in other words upon three causes:

(i) The characteristics of the induct, such as form, material, movement, position, in a word the conformation and functioning of the psycho-physiological structure.

(ii) The inductive flux and its modes of action.

(iii) Reciprocal action between various inducts including the induct in question himself (auto-induction).

It is, undoubtedly, in the second group that we have to look for fundamental causality, the causes indicated in the first and third groups being, after all, only *disturbing causes* or rather modifying causes.

Stimulation does not appear among the above causes, because stimulation is not a cause but a causative circumstance.

Here are a few examples:

If we switch on the electric light, the operation is not the cause of the lighting of the lamp. The cause is the electricity which is in the wire: the turning of the switch is but the circumstance which permits the cause to act. If we turn on the water-tap the cause of

the liquid flowing is the pressure in the pipes. The turning of the tap is but the circumstance which permits this pressure to manifest itself.

If, during a storm, we open the window and the wind gets in, oversetting the furniture and tearing the curtains, the cause of all this is not the opening of the window, for if the weather was fine we could open it a thousand times with impunity, without causing any damage.

It would be vain to try to establish the existence of a law by virtue of which the opening of the window was the cause of the damage to the furniture. We should *never* succeed in doing so, because the opening of the window is only a circumstance which permits the wind from outside to blow in and act, but it is not the cause of the over-setting of the furniture.

This does not prevent its being a fact that, by reason of the more or less complete opening of the window the wind could come in more or less violently and cause greater or lesser damage, and it is exactly this fact which easily induces an error and makes people suppose that the cause of the damage is the opening of the window.

This example could be multiplied indefinitely.

As regards the electric field, we would remark that if we displace a conductor in this field, or if we vary the currents which pass through the conductor or the other currents which traverse the field, in short if we bring about any sort of a variation in the situation of the induct, in its relation to the field, we get a variation of the induced electricity.

The variation in the situation of the induct with regard to the field, is, in this case, the circumstance which permits the induced flux to manifest itself in a certain manner and to cause some increase or diminution of induced force.

Similarly: * * *

The exterior stimulation, physical or chemical, of the senses, is not a cause but a circumstance from the exterior world which comes in and exercises an influence upon the induct by changing its situation. This variation in the induct is followed by an immediate change in the induced neutrality which, in its turn, modifies its relation to the surrounding induced neutrality. This latter at once reacts on the former and brings about an immediate modification of its own auto-induction.

A third very important element comes into play when we study the relation between stimulation and sensation and that is: reaction, which is divided into reaction on surrounding entities and interior reaction on the being himself (auto-induction).

The study of the relation between the three factors: stimulation, sensation and double reaction should not thus, as has been seen, be based on the search for a law of causality governing the relations between the first and the two others. This causal bond *does not exist and would be sought, consequently, in vain*. This study should be based upon research concerning the correspondence existing between the varieties of the induced flux and variation which stimulation

causes in the induct, just as we do in the analogous physical phenomenon in which the correspondence between the variations of form, position and material in an induct, and the variations in the quantity and characteristics of the induced flux, is a thing which is well known and has been set forth in the form of practical rules for current use.

To insure the success of research, it must be in the first instance, presumed that the field of force remains constant all through the time during which the research continues and to imagine on the other hand that there are these disturbing and modifying forces which we mentioned in the first and third group of causes: that is to say, the characteristics of the induct and the effect of induction by other surrounding inducts.

These are essentially variable factors, which we should try to immobilise all through the experiment, limiting their variation to the results of reaction alone.

Though it may not be possible to secure the absolute constancy of these factors, it might be possible to take it as a hypothesis, to suppose it by approximation:

But even in relative immobility their effect is not less sensible and disturbing.

Let us limit ourselves to examining the effect of the second group, that is induction from surrounding entities. It is known that very sensitive individuals, for instance a good draughtsman or painter, when they feel that they are observed are not so sure of themselves. They no longer judge distances correctly, they make mistakes, go wrong about proportions, they do not appreciate the subtler shades as precisely as they could.

In some cases the artist can't even put in another stroke, and absolutely confuses his colours.

Here is an example which shows the matter in a clear light.

Let us suppose that in a school or in a laboratory someone is asked to judge of the variation in length of a segment or minute differences of sound or weight, or some other question used in experimental psychology. It very often happens to the persons questioned that they lose their self-confidence and with it their sense-perception and give ridiculous answers, sometimes so ridiculous as to make hearers laugh. There is a whole scale of degrees applicable to the average person between the great influence of induction from environment to which extremely sensitive persons are subject, and the lesser influence, almost nothing, felt by extremely refractory ones.

If we take no count of the inductive effect of surrounding entities, we weaken among other things all the conclusions of psycho-technique. Actually it is the most sensitive, and consequently the best who are the most easily beaten by examinations conducted on purely mechanical and quantitative lines. Those who are most refractory to influence and who are usually the most material and obtuse have the advantage over others who, more sensitive to surrounding induction, are generally also more sensible to the effects of general induction.

A very commonly made statement is connected with this, namely that no loftier spirit and, even more, no genius, has not had his periods

6 THE IRRADIATION OF LIFE AND THOUGHT

of timidity. Those who do not know or have not known timidity in their youth are for the most part material spirits without a spark of higher life.

The phenomenon of sensation is thus very complex and cannot be fully understood without taking count of all the factors which come into play, and which, according to the scheme of induction, might be summarized as follows:

STIMULATION

VARIATION OF THE SITUATION OF THE INDUCT

VARIATION OF INDUCED NEURALITY

Reaction of the variation
of the neurality on itself.

Reaction of the variations of
surrounding neuralities deriving
from the variation of the induced
neurality.

Not content with having presumed the field of force to be constant, and the characteristics of the induct and the environing neuralities to be immobile, we should also, if we wish to get any result, have present in our minds the effects of these characteristics, as well as of the induction of floating neuralities, on the development of the phenomenon and its complexities.

CHAPTER II

SLEEP, DREAMING, SUGGESTION, HYPNOSIS, INTERPRETED IN ACCORDANCE WITH THE PRINCIPLE OF INDUCTION.

(4) We have seen in the preceding chapter that the phenomenon of sensation, though it is much more complex than it seems at the first glance, and has many more variants than the Weber-Fechner method (which reduces the number of the variants to two) takes into consideration, becomes quite clear when we examine it in the light of the principle of induction. We can say the same of other phenomena of psychic life, an acceptable and reasonable explanation of which has hitherto been sought in vain.

Let us take sleep as an example: we shall recall that, according to some people, it is derived from an accumulation of toxins which periodically poison the nervous system, and which must naturally be eliminated, and according to others to hyperemia or, more probably, anemia of the nervous system, which accords with the fact that, during sleep, the somatic conditions of respiration and circulation are varied and are slackened proportionately to the depth of the sleep.

We will not inquire here into the cause of fatigue or the cause of the periodical necessity for sleep, or into the actual reasons which produce sleep. It does not matter much whether we have to do with an accumulation of toxins, hyperemia, anemia or some other thing.

We believe, however, that it is probably caused by anemia, combined with intoxication of the nervous centres, and it is to anemia and to the slowing down of the pulsations, considered as a cause of sleep, that we shall refer in our study. But we could repeat the same reasonings with a limited number of not very essential variants, even if physiology traced it to any other reason, which could cause a variation in the induct.

It is to this variation or change, according to our hypothesis that all the phenomena, higher and lower, of the psychic life are due.

In accordance with the principle of induction, life is produced by the pulsations which, rhythmically modifying the induct, make possible the formation of neuro-motor currents, animating the whole organism.

The intoxication of the nervous centre causes a diminution of the number of pulsations, and consequently a lessened afflux of blood to the brain; by the double effect of this diminution of the number of pulsations and the lessened afflux of blood resulting from it, we get a change in and an actual degradation of the induct, which is no longer adapted for receiving more than a reduced induction, namely one which is strictly sufficient for the forms of lower life.

This diminution of reduced force in its turn lowers the tone, first of all psychic and then physical, of the organism, which finally falls into a sleeping condition. Thus we get sleep.

As soon as the time necessary for the elimination of the causes of fatigue has passed, the nervous centres, no longer intoxicated, stimulate the pulsation anew, at first slightly, but in any case sufficiently to cause a very slight increase of induced energy. This energy begins to stir up the organism, accelerating, in due course, the circulation, so that the induced energy keeps on increasing until the organism returns to a waking condition. Thus we get normal, natural awakening. The resumption of consciousness though rapid, is gradual. First of all there are confused pictures of the preceding day, which gradually become distinct; then the memory, the emotions, the reason return in an exactly inverse order to that in which they were relinquished when sleep assumed its sway, when the first to disperse was reason, then the emotions and finally images which are the most difficult to eliminate. It is these that people the world of dreams, when we sleep and when we awaken.

As a rule we pay no attention to this gradual resumption of consciousness at the moment of awakening, or make no account of it, but it does not escape us in cases of great anguish or when our preoccupations are broken into for a moment by sleep. The first awakening, or physical awakening, is absolutely unconscious. It is only a little while later that the confused images come which relate to facts belonging to the preceding day, so that the memory which

illuminates and unifies them, the appropriate emotions, the will to act and finally the intelligence, reasoning and judging, submit the facts of the preceding day to a new examination. However rapid this succession may be, it must occupy a definite time, perceptible to our consciousness. We may actually, even after a great grief, awaken quite cheerful, and then feel a few moments later the repercussion of this grief, which disperses at once the cheerfulness of our awakening.

But even without being under the influence of grief, it is easy to perceive the gradual return of thought as induction is resumed. It suffices for that purpose to observe the phenomenon in ourselves with a certain amount of attention.

(5) The variation of consciousness does not follow during sleep the stimulation of the senses, since the induced neurality is so weak that the change in the induced subject produced by a normal stimulant does not result in a sufficient variation of induced neurality. The stimulant gives rise at most to images, that is, instead of causing the precise measure of neurality which would be present in a waking state, it causes an uncertain and insufficient measure, at most adequate to produce images. Dreaming is always an attempt to interpret by means of images the stimulants which have ceased to reach the consciousness. If, however, the intensity of the stimulants increases, a moment comes when variation in the induct is strong enough for the variation in the neurality to reach his consciousness. It then shakes the whole organism. The circulation of the blood is animated and, as a result, induction rapidly assumes its sway. That is artificially provoked awakening.

It is in this rapid flow of the induced flux that we find the explanation of the lightning rapidity of dreams during a forced awakening. The world of images does not take form slowly. It awakes almost instantaneously and accumulates and interlaces itself with the world of the emotions, then with that of memory and that of reasoning, which flow in with the blood and induction from every side.

If the cause of sleep is the lack of induction, dreams should obviously only appear as a reverie, ceasing at the moment when sleep supervenes, and on the return of induction, as the formation of images. These images take form slowly in natural awakening and rapidly in forced awakening. Thus dreams should not exist in a deep sleep as we see in actual life and as is recognized by all students, though up to the present they could not give a convincing explanation of the fact.

Dreams manifest themselves then when the chemical and physical improvement of the blood and the resumption of the normal return of the pulsation begins to render the induct capable of resuming his normal induction. Then there come at first vague images which, according to the variation of the oscillations of induction, become more or less clear and distinct.

The higher lones of induction are, on the contrary, lacking. They only manifest themselves when the induction has become perfect,

that is in a *waking* state. It is only then that the induct becomes susceptible to reasoning and will. In dreams we have neither logic nor the faculty of inhibition.

Induction, which manifests itself in a thousand intermediate shades, from the higher forms of intelligence to the purely vegetative forms seen in physical life—is only present sleep, except in its lowest forms. If these, too, were to disappear we should not get sleep but death, the annihilation of all induction with no possibility of its return.

Since in sleep the forms of induction connected with the most elementary vital forces are the only ones which remain, dreaming can only belong to their domain, and not to that of the intelligence or the will. Dreams are, thus, necessarily in accordance with the inductive oscillations in the domain of the material vital forces and of the images connected with it. As induction resumes its sway they may rise to higher images and even to emotions though the two kinds of images are chaotically intermingled in accordance with the oscillations of induction itself. There is nothing astonishing therefore in the fact that in dreams the unconscious, the material and the sensual *egos*, mingled with the imaginative *ego*, come to speech.

But the *ego* which expresses itself in dreams is not the whole *ego* of man. What is lacking is just the higher *ego*, the most important one, which dominates all the rest.

When the master and mistress are absent the servants occupy the drawing-room and receive their own guest. Thus during sleep, when the intelligence and the will are stilled, the emotions, the images, the obscure vital forces show themselves. They come into the foreground and think for the moment to play the part of masters. But the bell of awakening sounds and the servants hasten to hide themselves, then show themselves once more with impassible faces, astonished that anyone could suppose that during the absence of their master and mistress they had usurped their places.

Thus it is not our whole personality—as the Freudian school thinks—which appears in our dreams, but only its obscure, underground part, like the brass filling of a golden statue. Taking account of this limitation, the study of dreams may be useful, since it reveals certain obscure aspects of the character which, in a waking state, pass unperceived because they are eclipsed by the splendour of the higher forms of neutrality. In sleep the two higher faculties—intelligence and will—are absent. Sometimes even the emotions are absent too, and it is through images and chiefly even the most vulgar ones, that we can obtain valuable information concerning the obscure forces of life.

Though thus limited to the lowest field of induction, dreams may be revealing and, in certain cases, prophetic. The commencement of a physical lesion always constitutes a stimulant, but this stimulant in a waking state does not make a definite mark on the consciousness, and thus is confounded with other and better marked stimulants, which are localised in known places and are easy to distinguish. It is not so with dream sensations, which, taking form as they acquire

the necessary strength, finally bring themselves to notice and give rise to images which can, if one is able to interpret them, reveal some secret lesion. And what we say of a definite physical lesion may be said in general of all deteriorations or alterations of the obscure vital forces, that is to say, of the lowest forms of induction. The images originated in sleep reflect them and even reveal them, if those images are well interpreted. The revelations should, however, be completed, finished, by examination by the highest part of induction, which is absent in sleep. Thus we may get a synthesis of any given individuality and form legitimate presumptions as to its future conduct.

We have already seen that in sudden awakenings the irruption of the induced flux gives the impression that time is flying. Events which would require several years happen in a few seconds.

This rapid irruption of induction corresponds to an acceleration of time as distinct from time, just as the acceleration of speed is distinct from speed. Anyone who has been in an aeroplane or has travelled quickly in a car, knows that the "emotion of speed," as it is called, does not result from the speed itself but from the acceleration. For instance in an aeroplane it is when we pass from a speed of one hundred to one of two hundred kilometres an hour, or from two hundred to three hundred, or from three hundred to four hundred or still more, that we have a special whirlwind impression of life; live intensely. It is then that we have the real impression of what is called speed. When the speed of the aeroplane becomes steady, for instance at two hundred and fifty kilometres an hour, the impression is stabilised too, becomes static and almost causes boredom. Aeroplane passengers who go to sleep when this happens are not few in number.—

As soon as the aeroplane accelerates, the emotion connected with acceleration awakens and is experienced afresh. If, on the other hand, the aeroplane slows down, passing from a speed of two hundred kilometres to one of one hundred and fifty, our transport seems to be restrained and the same speed which in accelerating was emotive, becomes in slowing down reductive, to become once more emotive as soon as acceleration begins again. In a car, too, when the speed diminishes from one hundred and fifty kilometres an hour, we think that we are moving very slowly. Speed becomes emotive again when we pass from a hundred kilometres to one hundred and fifty kilometres or more. The same phenomena are reproduced each time we accelerate or slow down.

The sensation of intoxication together with speed or, still better, the acceleration of speed is not causeless either—it can be traced back to the increase of induction. We have actually considered up to now the induction derived from the intrinsic movement of the induced subject, but it is also really connected with the general movement of the whole induct, which is displaced in the neural field. These displacing movements are, generally speaking, slow and, as a result, scarcely noticeable, and the variation of induction resulting from the displacement of the induct is negligible. But when speed increases greatly we feel an increase of induction which, uniting with normal

induction, gives rise to the intoxicating impression characteristic of the increase of speed. When the speed is constant the composition of the two inductions becomes stable, and while it is greater than normal induction, it does not create the intoxication resulting from the increase of induction. When the speed is reduced the induction is reduced and the corresponding sensation too.

Having established this, we find a confirmation of it in the fact that certain gyratory, whirlwind movements which result in quick displacement of induction, cause, by reason of that mere fact, disturbances in the induced neural force. Actually whirling movement, such as dancing or the merry-go-round give rise to a sense of intoxication. If the movement is intensified we get giddiness. Finally, if the same whirling movement is prolonged or accelerated, an actual state of excitement or even of asceticism may be reached. Do not dancing dervishes attain through their whirling movements to ascetic states quite foreign to the normal? Finally, it would be interesting in order to confirm better the principle of induction, to ascertain if these states become manifest, if they turn in one direction or in the other and, above all, if the number of turns a minute corresponds with everybody to the same fixed number of pulsations. Finally it is known that it is possible to reach an ascetic state of exaltation by means of rhythmic sounds or chants. This fact is easily explained by the principle of induction, for stimulation produces rhythmic variations in the induct, to which rhythmic neural variations respond. These superimpose themselves on the undulatory neural current, caused by the normal pulsation of the organism, and become part of it. It would be in this case very interesting to seek out the connection which exists between the rather slow rhythmicity of actual music creating these states, and the rhythmicity of the heart.

(6) Let us return to sleep: During the withdrawal of induction (falling asleep) we get a prolongation of time (a long and diffuse reverie), whilst at the sudden renewal of induction (a sudden awakening) we get a real period of time besides an accumulation of images and emotions, succeeding one another in due course. The concept of time is, thus, connected with induction and its relativity, like all the modifying circumstances of our induction, is revealed in a surprising manner in dreams. The conception of time in general is connected with a state of mind, expectation, pleasure, grief, etc. A somewhat various impression of time corresponds to these states, but it always corresponds strictly with our induction. (See Chapter VII.)

All the phenomena of sleep clearly reveal the manner in which our induction acts. A profound emotion may cause, as the result of a localised hyperemia, or other physical causes, little groups or clusters, in which induction remains and constitutes a kind of vortex or little circuit of neurality.

Under the influence of a strong, recent emotion sleep is agitated, interrupted. The little vortex of neurality connected with the emotion acts as an auto-excitative centre. It recalls, from time to time,

a little induction into the surrounding zone, and causes a general resumption of activity, and consequently, of circulation—and we awaken.

Or again the emotion may cause little vortices of neurality which, although they are not strong enough to cause complete awakening, are able to awaken the world of emotion. Thus we get dreaming, which repeats the emotions of the day in disjointed, transposed, contrasting images, according with the world which the residual neural force is capable of exciting. The emotional dream is generally polarised on a single emotion, unless two little neural circuits connected with two distinct emotions are formed. It is difficult in practice to verify this.

The little vortices of neurality which form an emotion sometimes maintain themselves for several years. They are latent, submerged by the general induction. They cannot be perceived during the day, but in sleep, as soon as the higher forms of induction disappear, they give rise to a little, sensible current of neurality, and for several years one keeps on having the same dream. Literature is full of cases of this kind, and it is not necessary to repeat them here.

The effect of narcotics, of alcohol and of hysteria on dreams is well known. On this subject, too, we have a whole literature which, following the discovery of psycho-analysis, has become notorious and we will not deal with it in detail. We will only say that the constant effect which different kinds of narcotics (opium, heroin, etc.) or alcohol (beer, wine, absinthe, etc.) or hysteria in its various manifestations have on dreams, results exclusively from a corresponding dissociation of the induct, and that in spite of their individual diversity. Drunkards, for instance, often dream of animals, opium smokers all have similar dreams, preponderantly visual, excited by the completion and development of the images which have come before them before sleep.

The phenomenon of the formation of clusters, vortices or little circuits of neurality is verified not only in the sphere of sensation and image, but also in the higher sphere of will and intelligence. The curious fact of awakening at an hour fixed before going to sleep belongs to the sphere of will and intelligence. The concentration of the will causes a little vortex of neurality in the zone where induction is gradually resumed before awakening.

When induction, gradually reviving before the hour of wakening, touches this vortex, the latter begins to act as a centre of invigoration, and it causes awakening. It is comprehensible that automatic awakening cannot function well except in the zones close to normal awakening. An attempt at awakening at a desired hour which was after two or three hours of sleep would have little chance of success, whilst an awakening fixed for two or three hours before the normal time of awakening is almost sure.

The frequent solution in the morning of a problem with which we were preoccupied the night before belongs to the same order of things, like the scholar who finds he has learned a lesson which he

could not master the night before. The vortex or neural circuit caused at this fixed point by preoccupation makes only this one point in the intelligence act all through sleep. When awakening and induction touch this point, the circuit acts as an auto-excitative centre and we get not only the anticipated awakening but an awakening in which the preoccupying thought dominates. The consciousness of that thought is in reality clear even before the gradual resumption of consciousness which is parallel to the resumption of induction in the remaining parts of the induct, for induction has never ceased in the neural circuit caused by preoccupation with the thought.

The intelligence is not yet perfectly clear immediately after awakening. It remains nebulous for some little time, slow and inclined for imaginative rather than purely intellectual work. This slightly confused state generally comes to an end with the morning ablutions, above all if these are with cold water, and not only on the face but all over the head, or better still, if there is a shower bath all over. The fresh water tones up and enlivens, setting up circulation and in consequence induction in the whole brain. It seems then as though a veil has been removed. The ideas become clear and the thought-work of the day begins.

It is always very useful to refresh one's face, and still more one's head with cold water, in order to keep awake and clear one's ideas when preparing for an examination or when, in general, one is engaged in intense intellectual work.

Since ancient times the beneficent physiological effect of the reaction of cold water in all cases of psychological derangement, monomanias and obsessions, and in general, of hydrotherapy, have long been known. These ablutions reactivate the circulation, they distribute and regularize induction which from pathological causes has been concentrated in fixed points.

Not only the application of cold water, but, in general, all the means required for the increasing and regularizing of the circulation of blood in the brain, are important as intensifying and distributing induction.

We must not forget in this connection the custom of veiling the head, which in the east among the Hindus and the Mussulmans is considered as a necessary condition of attaining that state of religious elevation, that holy exaltation of the soul, without which adoration and prayer are but vain formulæ.

Mahomet recommends veiling, and even prescribes it explicitly, and no Mussulman would dare to pray with a bare head. But what is to-day confined to the Hindus and Mussulmans must formerly have been extended to the whole of humanity. We actually find traces of it in the faithfully retained Jewish habit (though its origin has been forgotten) of keeping the head covered during religious ceremonies, and in the custom which was common to the whole ancient world of never making a sacrifice or presenting oneself at God's altar without a sacred head-band.

Uncovering the head out of respect, as well as the custom of offering the bare hand in greeting, are barbarous customs which were introduced

into civilization in comparatively recent times. They are due to reciprocal distrust. To take off the gauntlet and the iron helmet were the sole means of convincing others of one's amiable intentions or submission and of reassuring them, during the Middle Ages.

It is strange that the importance of veiling oneself in order to increase inspiration should have been empirically rediscovered, perhaps by chance, in any case apart from all thought of religious elevation, by two Western writers, Baudelaire and Verlaine, who made use of it in order to put themselves into the state of grace necessary for the manifestation of inspiration.

Respiration is also essentially important for improving the circulation and indirectly for producing better induction, for the better oxygenated blood, circulating more actively, constitutes a physical and chemical improvement of the receptive quality of the induct. We see, therefore, the importance of certain respiratory gymnastics practised above all in India, where yogi methods of sharpening the mind and intelligence are based upon better and intensified respiration.

The fact that all initiatives, from the simplest, such as getting up in the morning, to the most serious, should be taken at the moment of inspiration, may undoubtedly be connected up with the greater oxygenation and, in consequence, with the greater activity of the blood required for the effort. This inspiration is generally prolonged and made stronger, as if it was to store up as a reserve of energy a greater quantity of strongly oxygenated blood.

(7) When a return of sleep follows an incomplete awakening, that is to say a still nebulous one, it is easy to resume the same dream at the point where we left it off. This fact may easily be explained if we consider it as due to an oscillation of induction. The increase of induction had provoked the awakening; if this induction is again reduced we find again the same world of images intact, not yet varied by complete awakening. At this moment of complete awakening the induct is in the best physical and chemical conditions for receiving induction. The intelligence is clear and fresh. This is why folk-wisdom tells that the morning hours have gold in their mouth. That is true even if, during the day, hyperemia caused by some excitement should place the induct in better conditions and make the more subtle and higher forms of intellectual induction develop better.

Intellectual induction is connected also with all the variations of the induct, whether they come from his sleeping or his awakening state, or from any other circumstance capable of provoking the variation. Bad digestion takes the blood from the brain, and even when real sleep does not come the intelligence is heavy, the will is idle. The little afternoon doze, which comes on almost suddenly, because the circulation of the blood has slackened, and which stops even more suddenly when it gains force, is generally dreamless, having especially no dreams at awakening. The initial drowsiness is very

short, and we often see people who are accustomed to a siesta go to sleep suddenly even in the middle of conversation.

Day sleep is, as regards restfulness, generally the least deep and the least efficacious. This probably is the result of the fact that in the daytime induction from surroundings is extremely strong. It seems, too, that certain curves of variation in the functioning of the brain are connected with the course of the hours and seasons; as well as with variations in the field of universal force which is stronger in certain circumstances of time and climate, and weaker in others.

Besides these general variations the individual oscillation of induction, even in awakening states, is remarkable. A very slight stomach attack is enough to diminish the intelligence and the will. A chronic disease of the stomach has its influence even on the emotions, so that a gentle, gay person becomes sombre and irascible. The higher the intelligence the greater the oscillation of induction. All poets, artists, learned men and thinkers know this. In them, at times inspiration, the capacity of reasoning and thinking, are subject to eclipse, and even the will may slacken.

At such moments they despair of finding inspiration again, of reaching the heights they had reached before, and this depresses them. These alternations of enthusiasm and depression are characteristic of all higher minds, which are familiar with them.

The ordinary individual, accustomed to a fixed dose of induction by which his intellectual life is regulated, cannot conceive how it is that a person with a greater talent cannot always do what he can at a given moment, still less how he gets discouraged when facts have shown him that the period of recovery always follows a period of depression. However certain one may be of this alternation of depression and recovery, the consciousness of greater induction is so lost that it seems impossible to be able to recover it. It is like having been another person, having glimpsed a light for a moment and after that having become quite blind, having realised a life that is not ours; is not ours because, since it leaves us, it does not belong to us.

Some higher minds—which are most subject to induced energy—have by chance discovered that certain artificial excitants, physical or chemical, could restore induction to them either altogether or in part, and they have had recourse to them, even at the cost of their health, and in consequence, to the damage of their talent itself, which for a moment they have brought into action, while destroying its basis, by destroying their constitution. We see that de Musset and Baudelaire required external excitants which absolutely besotted them. Others can only work when under the influence of alcohol, coffee, tea or tobacco. Others, finally, can only produce when under the influence of a strong passion, and even cultivate it artificially so as to derive from it this excitative effect on the circulation and the physical condition of the induct, without which their talent cannot reach the summit which they desire to attain. Real genius, though subject to considerable oscillation of induction, recovers so frequently and

so powerfully its maximum flow of inductive force, that it is not obliged to have recourse to degrading means to produce that flow.

The student who is preparing for an examination also has his alternations: the hyperemia which is the result of excitement about and preoccupation with the examination, may take him to unaccustomed heights. If the person in question is an ordinary individual he sometimes, when the excitement has passed, understands nothing of what has seemed so clear to him, except that he can resume his comprehension when a new elevating flood of induction comes.

It is while the examination is in progress that the flow of induction sharpens the mental faculties, so that he may come to know unexpected things which enter his mind in a moment mysteriously. At other times, again, the hyperemia is excessive, and leads to the opposite result. That is, the student loses the thread of his thoughts and is incapable of dealing with things which he knew quite well before and which, had he been a little calmer, he could have dealt with satisfactorily.

Thus it happens that in fever hyperemia may lead at the beginning to a kind of sharpening of the mental faculties. The intelligence of consumptives is typical of this. But when it becomes excessive, above all if it is allied with poisoning of the blood, it acts in an opposite and damaging way on the induct. Then thought is derailed, and we get delirium. The combination of fever and sleep then produces the strangest forms, delirium, nightmares, lethargy, which take a thousand forms according to the illness and the individual.

The oscillation of induction does not take place so to speak vertically. Some great preoccupation which concentrates, for instance, induction in a certain point or zone, may reduce or almost annihilate it in others, so that it often happens that a man who is a prey to a great emotion or is absorbed in the solution of an important problem, loses for the time being the capacity to feel the effects of other emotions or the faculty of understanding other problems, even the simplest, and may become absolutely insensible even to the stimulation of the senses. The same man who, under the sway of warlike ardour, is not moved by the sight of disfigured corpses, is capable, when he has returned to normal life, to burst into tears at the sight of a dog or a pigeon which has been run over by a car. A great mathematician, absorbed in a difficult and abstruse mental operation, cannot always understand the terms of an elementary problem which a young child asks him to solve. Sometimes he doesn't even take cognizance of the sound of the child's words.

When an emotion or a thought takes strong possession of a mind a person becomes blind and deaf to everything else, and only a strong stimulant can bring induction back to its usual homogenous distribution. For instance, a friend would have to touch you several times, and hard, on the shoulder before you saw him, recognized him and heard what he said. This is actually a state of partial awakening, which functions similarly to a sleeping state. Milder forms of this phenomenon are the distraction so usual in philosophers,

mathematicians and learned men, who are accustomed to concentrate their minds on fixed points, and even in ordinary people who are greatly preoccupied. The oscillation—which in this case we call lateral—of induction may result from exterior circumstances, but also from interior ones. Due to attention, that strange auto-regulative power, the induct can displace induction laterally, and concentrate it on a fixed point. Will-power is a pendant to the auto-regulative power of attention. Will-power is another auto-regulative force, and it can displace induction vertically within certain limits corresponding to the characteristics and functioning of the induct.

Attention produces artificially the same effect as an emotion or a thought, that is, it increases induction at a fixed point, with the essential difference that the displacement of induction resulting from attention is artificial, willed, and, for that very reason, unstable. The stimulant of the senses is, as it were, repulsed by attention, which seeks to direct induction to another point, but if, in spite of that, it succeeds in penetrating to the artificial location of induction, the latter yields and takes its accustomed course.

The stimulant to the senses has not, on the other hand, any effect upon those who surrender to an emotion or are absorbed by a thought. They neither see nor hear, or if they momentarily perceive an optic or acoustic sensation it does not disturb them. They remain or at most return a short time afterwards to their former disposition of the induced flux. The stimulant to the senses, on the other hand, *greatly distracts the attention*. A noise or the sight of an object is sufficient to displace the induced flux, which the attention had with great difficulty directed upon the fixed point. The attention has to recommence its work each time an outside sensation interrupts or disturbs it.

This is the cause of the lively irritation and exaggerated reactions of persons whose audience has been disturbed. During a concert the slightest unaccustomed noise, a seat being lowered, steps, a murmur, provoke indignation among the public which protests violently, not considering that their reaction produces a much greater disturbance than the result of the noise, which might have been already forgotten. People rebel not because the noise has spoiled their enjoyment of the music, but because it has made the neural castle of the attention crumble and have to be reconstructed. The person who is completely and naturally absorbed in the music does not hear the noise. He does not even get the sensation caused by it.

The auto-regulative power may also, at will, under certain favourable conditions, reduce the induction of higher strata to give free course to reverie and daydreams. The world of images thus acquires a distinctness which is certainly not comparable to that of a real dream, but which, in any case, is remarkable, above all in small children. Reverie and absorption in an emotion or thought prevents or at least diminishes the effect of surrounding induction. That is why many people take refuge in reverie. They find in it the sole means of asserting and exalting their own individuality, which is

habitually submerged by induction from their surroundings. Something analogous takes place in dreams, in which the real personality is revealed, free from induction by others, but incomplete, since it is limited to the lower sphere.

The power of the will may also, for a certain time, maintain the conditions suitable for the preservation of induction, though naturally they would tend to degrade.

Thus one may voluntarily secure a prolonged wakening state, fight against sleep by the help of exterior stimulants capable of maintaining the induct in a state of artificial excitement.

It is thus that washing with cold water, music, conversation, the excitement of shows and emotions easily keep one in an awakened state. Induction recalled by violent means tends to keep going for a certain length of time, and one does not even feel sleepiness, which, like all physical stimulants, is *periodic* and *habitual*. When it has been violently repressed it retreats for a time, to return afterwards with a sudden intensity.

Contrariwise, the monotonous reading of something not very interesting, a monotonous and uniform voice, concentrating induction on one point alone, even though with reduced intensity, facilitates a retreat of induction, thus producing *sleep*.

Sleep manifests itself in a somewhat different manner in children, young people, mature persons and old folk. It is always under the influence of the physical condition, variously affecting the induct, and, consequently, modifying and varying the reception of induction.

In children nightmare is a characteristic feature. It most frequently proceeds from an emotion experienced in the day, which has its exaggerated and isolated repercussion in sleep. The rapid displacements of blood which are found to take place in children (this is proved by the facility with which they blush), the rapidity with which their nervous organs perceive stimulants and react to them, their extreme sensibility to the stimulants themselves, are all factors which contribute to a rapid concentration of induction on an emotional point, and in consequence, to an awakening of that emotion. It takes gigantic dimensions by reason of the very rapid afflux of induction and of the lack of the inhibitory brake constituted by the intelligence and the will. Although its eyes are open, the young child does not see the person present, he is only aware of his dream and of the horrifying images connected with it. Sometimes he only revives scenes from his school or other life, he talks, he throws himself about, he cries. This a real, but not pathological, form of somnambulism.

In the pathological forms of somnambulism also, although the causes are quite different (organic lesions or constitutional weaknesses), the phenomenon is the same. Induction, ceasing in other parts, is localised in some few points of the induct because of a fortuitous hyperemia, or for constitutional reasons. Thus there are people who talk and walk about during the night—otherwise somnambulists—whose senses of sight and touch are limited because the neural current transmitted to the senses has stopped for want of induction.

(8) Finally we have the very singular case of hypnotic sleep, produced by a violent suppression of higher induction by means of mechanical passes. The induct, unhurt, remains capable of receiving induction from another individual force, strong enough to substitute itself temporarily for the general neural force of the subject. The hypnotic sleep has not, in contrast to ordinary sleep, either drowsiness or gradual awakening. All that happens is that the inductive force is replaced by another force which makes almost no alteration in the characteristics of the induct. Consequently there are neither dreams nor memory, unless the latter has been, in its turn, induced. Hypnotism must not, of course, be confused with suggestion: the former is an artificial operation by means of which one induction is mechanically replaced by another. The latter—which may act as well upon isolated individuals as upon social groups or, vice versa, be produced from groups or complex social forces—is the compounding of one induction with another.

This latter, that is to say reciprocal induction, rules social life: no individual is solitary in life, he lives a complex life of relations, first of all with universal induction, then with his own auto-induction, and finally with induction from all entities individual or social, with whom he comes into contact.

All these factors act upon him in the same manner as he works upon them, by the sum total of interlacements and interferences on which life and social relations are based.

The surrounding inductions are sometimes so predominant that we get the impression that personal induction is oppressed by them, hence aspiration to a solitary life—even on an island in the Pacific, which fascinates and attracts certain persons, above all at times when social life is most intense.

Induction is the general law of the world. Suggestion is only reciprocal induction, called by a more general and indeterminate name. It forms part of the general law and includes us all, having very various effects, according to the relative power of the individual induced force and the environing forces.

Hypnotism, on the other hand, is a particular case, even opposed to the ordinary means by which induction, considered as a natural law, is developed and explained. It may be caused experimentally or therapeutically with proper precautions. Except in these two cases it should be banned.

Hypnotism may be more or less complete: when induction has been reduced to vital force all sensation disappears and the subject falls into a catalepsy. He is conscious neither of sense-impressions nor of pain. The variation of neurality produced by this stimulation of the senses is replaced by the neurality induced directly by the hypnotizer. Thus it is that the hypnotized person may easily be made to believe that red is green and that he is cold when he is hot. Sensorial movement continues to develop in the same way, but in place of the neural force derived from natural induction, an artificial, foreign, neural force is acting.

We can produce in ourselves by mechanical and artificial means the same partial suppression of induction (auto-hypnotism, fakirism) and suppress, for instance, the sensation of pain in a limb or part of the body.

The artificial somnambulism by means of which the hypnotizer, eliminating the subject's own induction, renders him capable of receiving induction from a third party, belongs to the same order of phenomena. Induction from the hypnotizer and induction from the third party are compounded, and the latter is, so to speak, sustained and reinforced by the former.

Under these conditions the subject easily executes orders given mentally by a third party (trifling experiments in thought-transmission), or he is induced by induction from the consciousness of the third party, and we get cases of premonition or prediction of the future. They are called so, when they are not really predictions at all, but only knowledge of the state of the third party, of his preoccupations, his passions and aspirations, from which it is easy to come at an approximate prophecy, which almost always corresponds with what he fears or wishes for.

* * *

It is not our purpose here to make final research into the possible application of the principle of induction to other psychological phenomena, however exceptional they may be, such as hallucination, mediumism, telepathy, etc., or into others belonging to everyday life such as automatism, habit, etc., etc. The few data already given are sufficient to show that psychological life may be found to accord perfectly with the principle of induction and to receive new light from it.

We should, following the principles given, devote special attention to the study of the abnormal and pathological variations of induction inherent in cases of hysteria, psychic trouble in general, obsessions, fears. It would be well to carry further the study of the higher forms of induction which are manifest in men of genius, to examine the influence of all the induced activities connected with the reason or will, the passions or emotions, the imagination or the senses on themselves and on other activities, as well as on the body from which they emanate and vice versa. The study of comparative induction in animals should have much light thrown upon it; seeing that these latter have not the higher forms of induction, it is easier to study the more elementary forms in them—more particularly the instincts and obscure vital forces—which are so eclipsed in man by the splendour of the higher forms that they can only be recognised and individualised in part in sleep or in cases of hypnosis, catalepsy, distraction, automatism, somnambulism, *et similia*, in which the sovereign faculties are, for one reason or another, temporarily and more or less partially obliterated.

SECOND PART

INTRODUCTION TO A THEORETICAL INDUCTIVE PHILOSOPHY

CHAPTER III

CONVENTIONAL REALITY

(9) LIFE — of course, in accordance with the principle of induction — is a *manifestation of universal energy which, absolutely inscrutable as regards its essence and source, radiates itself from a common point and objectivates itself in various forms according to the nature of the radiation itself and according to the organ irradiated.*

In other words, universal radiant energy received by the neural structure which is adequate in form, matter and movement, being our induct (subject of induction) takes a characteristic form called "induced neurality," and gives place in its turn to an induced neural force and to neural motor currents which maintain life in the organism by a cycle of "movement engendering life and life engendering movement." This cycle continues until it is interrupted by some external cause, or the slow deterioration of the induct.¹

Induced neural force, though separated from universal energy and individualized by the characteristics of each induct, always participates in that universal energy.

Individualization gives rise, in the superior and most developed forms, to induction such as it is in the human form, to consciousness and auto-consciousness. The induct's neural force would not be distinct from the universal, if it was not limited by the physical limitation of the induct, constituting a barrier and limiting the strict field of activity of the ego. The latter is, as the result of this limitation, separated, isolated, so to speak laterally, by the non-ego, and from above by the inducing energy. It individualizes itself and becomes auto-conscious just because of the barriers which limit it. If these barriers fall, as seems to be the case in certain forms of Indian mysticism, the ego is de-individualized and tends to plunge into the infinite and lose itself there, though it cannot ever succeed completely so long as the induct remains physically intact.

Besides, the exterior world, acting on the induced neurality by means of sensations and variation of the field, by the effect of reciprocal induction, etc., makes its presence manifest in the kernel of induced, isolated and individualized neurality, making it conscious of the exterior world in so far as the latter, by various ways, is able to modify it.

Among the most important of the variations caused by the exterior world is sensation, which proceeds from the variations and alterations

¹ See *The Inductive Conception of Life*, by Prof. Enzo Lolli (Chapter II).

of the currents caused by stimulation in our nervous organs. To these variations there correspond relative variations of induction, and, in consequence, of neural force and induced neural current. (See Chapter I.)

If we stop to consider this particular point, we shall see that the connection between stimulant and sensation constitutes a virtual bridge over the abyss which has always separated the exterior world from the individual consciousness.

"It is between stimulation and sensation that there is an abyss!" (de SARLO.)

"The source of sensations remains a fact beyond all explanations." (A. RIEHL.)

"Sensation depends upon unknown factors." (R. WHALE.)

"It is the exterior which supplies the empirical element in intuition," said Kant, without, however, giving a more exact definition. "How does the empirical datum, coming from outside, reach our consciousness, how does consciousness of the world, which is so real and important to us, arise within us?" (SCHOPENHAUER, Critique of Kant's philosophy.)

Once we have fixed as a point of departure the connection—by means of induction—between stimulation and sensation and, in general, between the exterior world and consciousness, we cease to wonder amid the indeterminate, we have a bridge over the abyss which has always separated the two sides—the side of exterior life and the side of interior life—and it becomes possible to go on and to explore systematically the problems we find on one side or the other.

On one side we find in the first instance the problem of reality. Is it admissible to speak of stimulation and, in general, of an exterior world, or does the latter exist only in our thought? In other words, is the exterior world an objective reality outside and independent of us? Or does it not exist? (In that case reality would reside exclusively in us), or again, if it exists, does it not exist as an illusion or a lie?

If we admit the existence of an independent reality, does this reality reach our consciousness as a whole, or is it a complex reality of which our consciousness only perceives some aspects? Or again, is it a reality the essence of which we can by no means know, being able only to register the impressions which it awakens in us, impressions caused by our faculty of knowing, and which are conditioned by its forms and functions.

Are these impressions, though connected with the forms which are in us, in their turn the cause of modifications deep enough to bring it about that our "inmost self" will, vital impulse, or whatever it is, can penetrate beyond appearances into the "inmost self" of the object, identify itself with it, or is this "inward self" really something beyond all knowledge so that reality manifests itself only in our consciousness, not because it does not exist, but because what the consciousness cannot know is for it as if it did not exist.

On the other side of the abyss we find the problem of consciousness.

What is consciousness? What is the reality on the other side like? Is it fictitious or illusory or really real, accessible in its totality or in part, or knowable only through our forms or by means of communication between "inmost selves," or again, absolutely unknowable? How, we say to ourselves, can this reality be reflected and reperçuss in us?

What are the relations existing between the individual consciousness and the universal *ego*, between the different individual consciousnesses, between the consciousness and the physical envelope?

(10) Here, in the first instance, the "*vexata quaestio*" of the reality of the exterior world outside our thought comes up—dividing irreducibly the spiritualists and idealists from the subjectivists and solipsists.

This question is probably insoluble, and consequently shows itself to have an error at its foundation, or at least it sets an apparent rather than a real problem.

From the human point of view—that is, setting out from thought as the greatest human manifestation—it is impossible to prove the existence of a reality outside thought itself, since all reality, known or knowable, can incontestably be reduced to thought.

But if, on the one hand, the conclusions which we come to as the result of this identification of reality with thought, meet with a number of difficulties, on the other hand, although it may be impossible to prove the existence of a reality outside thought, we cannot absolutely deny that, outside and above it, there are forms unknown to us, which extend into infinity, forms of which thought is but a minute fraction, perhaps an infinitesimal one. The whole scheme of nature seems to confirm it to us. The sector of our senses is but a small sector. The sector corresponding to what we call thought may perhaps be just as limited and, instead of including the whole universe, instead of including all reality within itself, may be nothing more as compared with the world than a straw is as compared with the great sea. Obviously if we take the thinking *ego* as our point of departure we can only arrive at a subjectivist conclusion and at the resolution of all reality into thought. But in the same way, for an animal which has only the senses, the world is altogether made up of sensations, it cannot conceive of the existence of a thought, since it lacks the organ of thought and even the means of thinking. If its sense, too, fail it, it can only take cognizance of the exterior world through the tropist effect which it exercises upon it. Its world would be nothing but tropism and things which had no tropist action upon it would be absolutely non-existent for it.

If man had only sight the world would be, for him, only light and we should never have been able to acquire knowledge of radiations situated below and above red and violet. As a matter of fact our far-off ancestors were far from imagining that below and above light things existed which, while they had the same characteristics as light, were to them imperceptible.

Man has been able to come to know of these radiations (which would otherwise have been a dead letter to him), solely because he had at his disposal something superior to the senses.

Reality outside thought is practically non-existent to the thinking being, but that does not imply, except as a hypothesis, that there cannot be any reality outside and above thought.

Without going deeply into this question, which would lead us too far and outside our subject, we may suppose that thought, in accordance with the principle of induction, is a manifestation of universal energy which, coming into us as induced energy, becomes thinking, sensitive, emotive and endowed with will; that is to say it takes a definite form inherent in the organ which receives it, and is diversified not only according to the structure of the organism (for example, the difference between a man and a dog), but also, at least in degree, according to the individual characteristics of the same organism (individual difference between man and man).

This induced energy absolutely needs, if it is to manifest itself, a material induct, and thus presupposes the existence of matter independent of the manifestation, if only the matter of which our induct is composed, the matter of our body. It is obvious that if we accept matter at a single point, we are obliged to accept it at all, for of course nobody could argue that our induct alone existed materially, and that other beings and things existed only in our *ego*. It is logical to conclude that there are other bodies like our body, and, in general, that there is matter exterior to us.

(11) Now admitting that matter exists as an independent reality, is there real, true, matter or only an illusion, a lie? We must not confuse this alternative with the preceding one.

Actually in the first case it is the very existence of matter which is in question, whilst in the present case what we want to know is whether its existence is real or illusory.

The characteristics, for instance, of stability, solidity, and impenetrability of objects exist, but we know very well that they proceed from an illusion, that is, from the whirling movement of an infinite number of electrons.

This question of the real or illusory reality of matter has been sounded and discussed in India, and has given rise to several schools of thought which all start with a Sole Universal Reality, or absolute Brahma. Some, however, among whom are the Sankhya, go so far as to consider matter—*prakriti*—as one of the aspects or emanations of Brahma, whose spirit—*purusha*—is the other; whilst among others matter is but a reflection or absolute illusion (*Maya*), or a thing believed in by the ignorant (*Avidya*), or a lying image of *purusha*, which is the sole reality and consequently is identified with Brahma, the absolute Substance, the Source of Being, eternal Intelligence and Beatitude, the creative Cause of the Universe in its spiritual and material manifestations.

This latter conception, which is that of the Advaitists, has a remark-

able similarity to Schopenhauer's conception: will: impression: purusha: maya.

The will which objectivates itself in things is actually very close to purusha which is enveloped in its own illusions, thus giving birth to the world of sense.

The former conception, on the other hand; that of the Sankhya school—is rather like Spinoza:

Purusha is to prakriti as cogitatio is to extensio.

There are innumerable intermediate shades of thought between the two schools, but altogether, whether we have an effective dualism of purusha and prakriti or an apparent dualism, prakriti being but the illusion of purusha, practically speaking we find ourselves face to face with two realities: matter is prakriti, spirit is purusha.

This dualism persists, even if we adopt the principle of induction.

The principle of induction presupposes a neural or spiritual manifestation, acting through induction on a material manifestation but it establishes—so to speak—no hierarchy between the two manifestations. The material manifestation might very well be an involution of the spiritual manifestation. In the same way as inductive electricity can induce inducted electricity into a little iron bar, which, in its turn, is constituted by a kind of electric agglomeration, inductive neurality can induce induced neurality into a given material structure which, in its turn, may only be a conglomeration or illusion of neurality. We should come thus to a conception very similar to the Advaitist conception, one which might be expressed by the following scheme:

That which is (I am that I am)

Neurality

Different forms of energy

Matter

If, on the other hand, we keep to the conception of parallelism between the various manifestations, we get the following scheme:

That which is (I am that I am)

Radiations

Neurality—Different forms of energy—Matter.

This corresponds rather to the Sankhya conception, except that in place of dualism we have gradual multiplicity.

In practice this is of relative importance.

Just as, when studying the action of electric induction on a little iron bar, we do not trouble to know whether the latter is a kind of electric conglomeration or not, and we put in contact with one another on the one hand electricity, the inductive force, and on the other the little bar, matter. In the same way, for the purposes of our thesis, we must look upon as an abstraction the fact that matter may be derived from an involution of the spiritual force, or even be nothing more than an agglomeration of neurality. We must consider it in practice as an independent reality, maybe a conventional reality, but entirely different from and independent of the spiritual reality.

In short, whether we look upon the whole world, spiritual and physical, as the manifestation of one sole source, which graduates itself downwards until it includes matter, or whether we consider on the other hand the different spiritual emanations, energetic or material, as parallel and independent, although they influence one another reciprocally; we must always, in practice, forget all these theories and consider neurality as the sole spiritual manifestation, and matter as that which it apparently is, namely *a reality* or at least *a conventional one*, existing as such.

(12) Having admitted the *conventional reality* of the exterior world, we must ask what is the part or the whole of that reality which flows into our consciousness through the narrow tunnel of stimulation-sensation, or by other ways which modify our induction.

Besides the way of stimulation-sensation, by which the exterior world reaches our consciousness, causing a variation in our induct, and hence a variation of induced neural energy, that is, of consciousness, there are obviously other ways in which the neural world can modify our induction. We have already said something about this. There are for instance, the effects of reciprocal induction. The world of the emotions, the world of sentiment, the world of intellect, are more particularly subject to the effects of reciprocal induction. It suffices to be in the midst of an enthusiastic or fanatical crowd to feel and to be quite different from what one is in solitude. It suffices for a person of higher intelligence to come into a group to raise those who compose it to a higher level.

However it may be, the exterior world only reaches our consciousness by means of a variation of our induction, whence we must conclude that what can reach it is only that which is capable of causing a variation in induction. The world which is in the act of causing a variation is the *actual* world. The world capable of causing a variation which cannot, however, be verified, is the *potential* world, which can be divided into two parts: the part of which we know the potentiality by direct or indirect experience, and the part of which we do not know the potentiality. Thus it is that while we remain for a moment shut up in our room, not seeing any movement or hearing any noise from the town, we know very well that that very day or the next, when we betake ourselves to the traffic-centres, we shall see people, vehicles in motion and we shall perceive the noises of all kinds appro-

priate to the town. Without ever having been in China we know from descriptions by travellers that we should find such and such things there, even though we are not able to tell precisely everything that it is possible to see there.

An ignorant shepherd, again may not know that China exists, and may be ignorant of the potential world, which is, for him as though it were not. Before the discoveries of recent centuries were made, man was quite ignorant as concerned electric motors, machines, radio sets, even though he was potentially adapted to perceiving them. They do not exist for the savage who does not know them, nor did they for the man who lived centuries ago.

But besides these potential known and potential unknown worlds, there is no doubt, an exterior world which cannot be perceived because of the impossibility of its causing a variation in our induction. It would be bold to assert that every reality can cause a variation in our induction. If we think of the very limited sector of luminous vibrations which our organ of sight can perceive, we shall have no difficulty in admitting that the variations of induction which can be verified on our induct, however innumerable their possibilities of combination, must be bounded in height and depth and extent by certain bounds, beyond which they are, for our induct, as though they were not: absolute nothingness. We are, as it were, immersed in an infinity of things and worlds which nevertheless are nothingness to us. They cannot reach us because we have not the means of perceiving them, and consequently they cannot influence us or modify our induction. They are, even potentially, beyond our consciousness. And yet we have reason to believe that these worlds and these things, inconceivable to us, constitute the greatest part of the universe, and that beside that part the world of things that we know or that are perceptible to us, is but an infinitesimal fraction.

Primitive people were and are right in a certain sense when, in their fables, they told or tell of pretended mythical, fantastic worlds existing as well as ours. Although they might not be conscious of them, they understood by intuition that there must be something beyond what is perceptible to us: There are more things in Heaven and earth . . .

If, however, we suppose our induct to have a somewhat amplified perceptive capacity, the confines of the potentially perceptible world would be displaced, and worlds now inconceivable to us would be opened to our consciousness. Thus some windows have been opened and do open for specially gifted inducts who, generally by way of mysticism, come to have visions of absolutely unknown worlds, which ordinary words cannot describe. We will discuss this elsewhere. It must suffice for the moment to know that of this reality, of which we know nothing—so much so that we have accepted it conventionally—the perceptible part is undoubtedly the smallest—that part which alone is capable of causing a modification in our induction.

As, again, we know nothing about that part except that it is able to cause a variation in our induction, the variation of induction is

even, as a matter of fact, identical with conventional reality. The identification of our knowledge with conventional reality does not mean that the latter does not exist itself. It only means that to each colour, each taste, each sound, each ratio of dimension, of weight, etc., which we know, there corresponds a fixed variation of induction.

We thus re-live the exterior, perceptible world by means of the variations of induced neural energy, corresponding to and homologous with neural energy. What we re-live is for us the exterior world, though at the same time the conventional reality of the exterior world ceases or disappears. This reality, contrariwise, persists at the same time for us and for all other beings, whose induction is capable of being modified homologously to ours by its various elements.

CHAPTER IV

LIFE AND INDUCTION

(13) ACCORDING to the principle of induction, the birth of life in the animal entity as in the vegetable entity consists of first imperceptible movement caused by exterior agents, which permits the first faint induction to manifest itself, after which the cell and the complete organism *live* their own life. Induction provokes movement, and movement, in its turn, provokes induction, causing it to manifest itself.¹

It is, however, necessary that the first movement, even though very faint, should be caused by some exterior agent or transmitted by the parents.

Thus it is that in the seed of vegetables, life remains hidden until the environing conditions (earth, moisture, temperature) cause the swelling of the exterior cells which gives rise to the first osmic exchanges between cell and cell and, as a result, the first protoplasmic movements. Immediately that a movement takes place, we get induction and the cell and the plant live.

The initial movement is, in animals, generally transmitted by the parents. The spermatozooids come out already full of life or pulsative movement, vibrating. The egg, even in the lower animals, comes out alive, its protoplasmic movements already taking place, ready to develop promptly, following the differential dilations caused in the constituents of the cell by the heat of hatching or by the sun.

With the higher animals and with man autonomous life resulting from induction in the individual begins at the very moment when the life transmitted by maternal induction ceases, that is, the life resulting from the pulsative circulation of the mother's blood. If there is no solution of continuity between one induction and the other, the life of the new-born being originates regularly.

¹ *The Inductive Conception of Life*, by Prof. Enzo Lolli.

It would seem as if Dante had presaged all that in his marvellous verses, where he describes a new life about to originate:

*si tosto come al feto
L'articular del cerebro e perfetto
Lo motor, prima a lui si volge, lieto
Sovra tant'arte de natura, e spira
Spirito novo, di virtu repleto
Che cio, che trova attivo quivi, tira
In sua sustanzia, e fassi un'alma sola
Che vive e sente e se in se regira.*
DANTE: Purgatorio, XXV.

The new induction, weak at the beginning, and limited to the points ruled by the physical life, puts the physical machine of the organism into motion. The latter, by its working, gradually improves the conditions of the induct, and renders it capable of receiving greater and greater induction, until it has attained its regular condition at which it maintains itself (with considerable variations) all through maturity. Finally the induct begins to decline, induction is gradually reduced, until finally it ceases and death supervenes.

(14) If our *ego* existed alone in the world, or if it was completely isolated from other beings by an absolutely isolating or dianeural material, and was sheltered from the induction of other induced forces, we should only feel the direct effects of general induction. These effects, greater or lesser, depend exclusively upon the psycho-physiological structure of our neural system.

If that structure was perfect, our induction would attain the highest possible degree; but the disturbing factors which keep us far from this ideal are numerous and strong in everyday life.

As we have seen, one of these factors is inherent in the very existence of the neural apparatus. However perfect and faultless we may imagine it to be, it causes by the mere fact that it exists certain losses and digressions of which we cannot estimate the effect. We do not know whether the yield, qualitative and quantitative, of the induct is 99.99% or 90%, 50% or still less, 10 or 1%. The relativity of this yield is, in any case, a certain fact, connected with the very life of the induct, and we are forced to admit this, and to consider as the maximum of induced force theoretically accessible, to man, the percentage of induced force which our apparatus—taken as perfect—could take in.

As well as this imprescriptible dose, we must reckon with three things which regulate the quantity of induced force and its characteristics, namely:

- (i) The imperfect—frequently very imperfect—structure of the neural system.
- (ii) The reaction of the induct and relative auto-induction.
- (iii) The various reciprocal actions and reactions of induction, which we may place in one or the other of two great categories,

according to whether they derive from individual induced forces, or complex social forces deriving from several groups or compounds of forces.

The faults of the neural system may obviously be faults in form, or in matter, or in both. Both kinds of fault have to do with the physical constitution, heredity, development, up to the age of puberty and after it, and accidents which may happen.

The matter of the system, in particular, is extremely delicate. It should be maintained by the circulation of the blood in the fixed condition in which it is capable of receiving induction. If the circulation fails, even for a comparatively short time, the matter ceases at once to be capable of receiving induction and induction is suspended.

If, however, the pulsative circulation is resumed, after a very short lapse of time, that is before the matter deteriorates, life, that is induction, begins again, and it begins again precisely and only if the normal number of pulsations reached by the renewing is sufficient. In other words, neither the presence of blood nor its circulation is sufficient for life. There must be actual pulsations and a fixed number of them.

It is evident that a lesion of the form or any alteration of its matter brings about disorders in induction, followed by various effects, according to the place where the lesion has occurred and its seriousness. As the structure is affected by certain hereditary physical characteristics, it follows that some new mental forms and characteristics are hereditary. Thus some physical peculiarities of the induced structure may be inherited, but induced force is not inherited, for it comes directly from the inductive flux. The same structural anomalies which in certain cases lead to disorders or to defective induction, may in others be the cause of exceptionally strong induction. Hence comes a certain correspondence between genius and the hereditary degenerative processes, not as a constant rule but as a possibility, a coincidence, and hence also, irrefutably, certain theories which would conduct the breeding of man like that of animals are seen to be inconsistent and without foundation. In man it is not the flesh or the muscles or the milk which count, but the qualitative and quantitative characteristics of the induced force. But the latter depends upon a great number of other factors much more important than hereditary physical characteristics, and there may be more of it and it may be stronger just where the hereditary characteristics seem at the first glance to be less select and inferior in quality. It results from this that the ideas of these cattle-breeders might make us ask ourselves whether it would not be better to breed the degenerative forms in order to secure the greatest originality and genius.

Without for the moment discussing the third and fourth things which influence the quantity and characteristics of induced forms, as well as their visible, hereditary, physical characteristics which form one of the factors modifying the usual structure (though assuredly not the most important one), we must take count of the invisible, non-hereditary, physical characteristics and in the first place the

fluidity of the neuro-mental mass, that is, the facility with which this mass is displaced under the action of neural forces and of the individual dia-neurality of the matter which envelops it. Thus, in obedience to laws which are certainly very complex, but which we may suppose to be somewhat analogous to those of electricity and of the composition of electric forces, an individual force compounds more or less easily with other forces and is affected more or less by auto-induction and by the reciprocal induction of other individual or complex forces.

Thus we come to the third cause which may modify induction, that is auto-induction, a very important phenomenon which dominates the whole of individual neural life and has a great influence on social life. For this reason we will pause for a moment to consider an analogous phenomenon in the physical world.

We know that while an induct is not producing current, that is, while it is functioning in a vacuum, it gives rise to no reaction and to no auto-induction, to no parasitic current which could hinder the action of the inductive flux, could diminish and in certain cases destroy its efficacy.

While the induct is functioning entirely or in part in a vacuum (as happens in unconsciousness, sleep and ecstasy), there is no auto-induction or very little. But as soon as the circuit of action closes (thought also is action) we immediately get a reaction of the induct together with auto-induction and the formation of parasitic currents, which fetter and hinder the effect of induction. The reaction of the induct is, too, of course, connected with its structure, not only as concerns the visible physical characteristics, but even more as concerns the invisible physical characteristics of the neural structure, with this difference that auto-induction may be modified. (See Chapter IX.)

The individual can improve, or even disimprove within certain limits, his own induction, by increasing or decreasing his amount of induced flux. This regulation can, however, only take place within certain limits.

Thus, admitting that we give the name of Saint to certain beings capable of approaching the highest point of perfection compatible with the existence of a nervous system, it is obvious that the perfect Saint must be endowed with an exceptional induct, very suitable for induction and must have the "favour" of very extensive powers of auto-regulation, permitting him to annul altogether or in part the reaction of his induct and relative auto-induction, also the parasitic losses.

The inductions deriving from other induced forces, individual or complex, concur, finally, in modifying induction by an infinite number of combinations, from the augmentation of individual induction (for instance enthusiasm induced by collective enthusiasm) to the approximate annihilation of that same induction (for instance, hypnotism and suggestion), through innumerable intermediate degrees.

Although this does not seem to have an appreciable value for man, we must not disregard the possible effect on individual induction, of the variations of environing induction due to variations in the inducing field, or to the interference of neural radiations or another

order, such as luminous radiations, radio-active emanations, ultra-short radio waves, etc. We can see this distinctly in inferior animals, in which it gives rise to the phenomenon of tropism. It is difficult to isolate in man, and yet it would perhaps be well to examine and test it carefully, for its individual and social importance are very great.

(15) Another no less important problem, parallel to that with which we have just dealt, touching the manner in which neural force is degraded in various individual inducts, is the problem of the distribution of neural force in the induct.

It is evident that if we have an induct which is not very homogenous in its form and matter, the distribution of induced force will also be not very homogenous.

A fact well known in physics is the existence of a singular phenomenon called in electro-technics sky-effect, or pellicular effect, when in all the conductors on which an electric force acts by induction the great part of the induced force is transferred to the exterior surface.

Now in the human induct, there is a singular coincidence, namely that the highest forms of intellectual life reside in the cortical envelope of the brain, or at least are in psycho-somatic correspondence with it, so that they can be localised there. This is not, of course, material localization, but localization in the sense that a specified somatic activity corresponds to each psychic activity. It is the same thing as to say that induction varies according to the characteristics of the matter of the induct, and is more or less homogenous according as the matter of the induct is more or less homogenous.

This lack of homogeneity in the constitution of the soul was remarked upon in ancient times, for instance by Aristotle, who distinguished between a vegetative soul, a sensitive soul and a rational soul, and by the Hindus who, even at the present time, recognize the existence of vital force, prana, an astral body (Linga Sharira), an animal soul (Kama Rupa), a human soul (Manas), a spiritual soul (Buddhi), and a higher spirit or Atma.

These distinctions may be created in an infinite number and they may be all correct, according to the theories followed, provided that it is laid down that these are contingent distinctions, made for the sake of clearness, whilst induction is unitary, even if it is manifested under diverse aspects. That is, there are not distinct souls or separate planes and envelopes, but a single soul which manifests itself in a thousand different manners at the same time, and constitutes a single individuality, from the highest and most subtle forms of intelligence to the lowest and most obscure vital forces.

The human receptive apparatus is deep enough to receive all the zones, or rather all the strata of induction possible, both in the unconscious being (pulsative force of the heart), in the super-conscious being (pure intuition), through all the degrees of the sub-conscious (obscure vital forces), the semi-conscious (instincts) the simply conscious

(sensations, images, sentiments, emotions), the volitively conscious (will, attention), and the reasonably conscious (intelligence).

Pure intuition, superior even to the intelligence, takes us into the pure ideal world, to the final limit of human inductive capacity. This limit of capacity for induction is a very modest one in the ordinary man, for in order to manifest itself it requires suitable inducts, and even very suitable ones. Sometimes there is no capacity for induction, or again it is reduced by variations in oscillation.

Induction is, thus, of a depth limited by the structure of the induct, even if this is presumed to be the best possible, faultless and secure from all dangers or even disturbances due to other inductions.

The Kantian principle that all knowledge is connected with the forms which are in us holds also for neural conception, for induced neurality, even discounting all the distortions and all the faults possible, is limited by the very existence of the induct's structure and is connected with the characteristics of that structure which can only receive a certain dose of induction.

Not only that, but the scale of neural vibration which the structure can receive is of course infinitesimal in comparison with all the possible inductions which extend into the infinite, below and above its limit of reception.

Besides the scale of induction considered in depth, that is from the pulsative energy of the heart to pure intuition—there is another limitation which has to do not with depth but with extent.

Actually the human receptive apparatus must be greatly limited for it is in contact only with the sectors in which the senses can operate. Within recent centuries the senses have come to have great help from instruments by the aid of which the sensorial sector is enlarged. Thus we have been able to get into contact with, for instance, the infra-red, the ultra-violet, the various rays, vibrations, etc.

Our neural sector has not, on the other hand, gained; hence there is a lack of equilibrium. If we pass, for instance, from the average, habitual sensorial conception to the conception of the infinitely great, such as is given us not only by telescopes and visible astronomy, but by a daily more extensive knowledge of the movements of the universe, or to the conception of the infinitely small, which we get not only from the microscope but from recent study, our world is disorientated. The ideas of time and space, the mathematical diagrams which represented the world so well to us, lose their relations to it. This results from the fact that the sensorial sector has been dilated by means of scientific instruments, while the neural sector has as yet found nothing to enable it to pass the threshold of the imperceptible. Can an appropriate instrument be found?

If we examine as a whole the rather backward condition of humanity, and the very slight spiritual progress which it has made, what we see seems of no account. But if we think of the prodigious advances made in certain branches of knowledge each time a right principle has been discovered, what we see seems of great account. Of course it is difficult, except in chance cases, to find what one is

not looking for and cannot look for, something of which one has no idea. But once we admit the principle of induction, we have every right to think that it might be possible to:

- (i) Enlarge the sector in which the induct could receive induction.
- (ii) Improve the induction by removing altogether or partly the faults in the structure of the induct.
- (iii) Diminish or even reduce to nothing the parasitic losses due to the reaction of the induct.
- (iv) Diminish or even reduce to nothing the deleterious effects of reciprocal inductions, while using their useful effects.

What as a matter of fact have the geniuses of every country and race, saints or mystics, musicians or prophets, artists or logicians, apostles of charity or justice, done save to apply or try to apply the three latter proposals—in an unconscious and instinctive manner perhaps, and often with a too limited vision. For with all the good will in the world to look at things from a right point of view, everyone allows himself to be carried away by his nature and follow the thoughts which correspond to the constitution of his neural structure, scorning the others or, ignorant of them, sometimes not even able to understand them.

The history of human kind shows us no examples of inducts capable of catching all the perceptible vibrations in an equally perfect manner. Some excel in one way, some in another. Each one perceives and represents in his own fashion, and that is perhaps well, *for it implies the necessity for collaboration among men*, which is the pledge of the development of all, provided that man knows how to recognize his necessity and to free himself from misunderstanding and mutual scorn. It is by no means excluded, however, that when the laws of induction are better known these limitations may be overcome and the only limitation remaining may be that which results from the physical structure.

Perhaps then, too, we may find instruments or means which will enable us to improve the physical structure itself.

CHAPTER V

CONSCIOUSNESS

THE development of consciousness and its gradual manifestation of itself, from its lower forms which may be called "minus consciousness" or unconsciousness, to the really auto-conscious, higher forms, corresponds to the gradual manifestation of induction, growing stronger and stronger, as the structure of the induct becomes more and more complex, thereby becoming more and more capable of receiving a high degree of induction.

The relation between the organic development of the neural system and the psychic faculties, which is the base of all the materialist interpretations of life, is very easily explained by the principle of

induction, if it is considered as the relation between the qualities and characteristics of the induced apparatus and the forms which energy takes when induced into this apparatus.

Just as the skill of a musician is manifest through the material means of a musical instrument, and we get a more or less correct impression of that skill, according as the instrument is more or less primitive or defective, the inducing energy is manifested through a physical structure which may, in accordance with its development, its organization, its comparative perfection, give us a more or less adequate impression of it—sometimes a quite inadequate one.

Taking induction as limited to its inferior forms, we get lower animal life, corresponding to a complete "minus consciousness," as in the infusoria, or a very simple consciousness as in the inferior animals. Real consciousness develops gradually as we approach the higher forms of induction.

The study of comparative induction may inform us as to the level of induction which the constitutions of the various inducts permits them to reach, beginning with the amoeba which assuredly does not emerge from the absolutely unconscious state, up to the higher type of man who attains the level of pure intuition.

Between these two extreme points there are all the intermediate animal stages, in which induction progresses from the sphere of instinct to that of sensation, of images and finally of emotions and sentiments such as the sentiment of love for the animal's young, the gratitude and attachment which are evidently manifested by superior animals, such as dogs, in which induction even verges on and perhaps touches the level of reason.

When the inducts become constitutionally different, it becomes comprehensible that not only does induction reach various levels but that it manifests itself in different ways. Thus the emotions of a dog are not exactly the same as those of a man or a horse or any other animal which has reached the level of emotional life.

We may perceive in the animals, in accordance with the level of induction which their constitution enables them to reach, first of all the phenomena and movements due to tropism, then those due to sensibility, to instinct and finally movements which proceed from real intelligence—although in a less developed and evolved form than in man—such as we meet with above all in the dog, but also in the horse, in some monkeys and in the elephant, of which Aristotle said that it comprehended more than any other animal.

There is thus a difference in quality between the intelligence of man and that of some of the higher animals. The intelligence of man is adapted to man and reaches heights which, on account of the structure of the induct, are reached by none of the known species of animals.

Aristotle had already noted that there is no barrier between man and the animal, but rather a graduation, and that both have common and analogous faculties. The mistake which we sometimes make is to consider the animal from the same point of view as we consider

man, whilst each animal has its individual development inherent in its needs and its structure. Thus Descartes considers the absence of language in animals as an indication that they have no gleam of reason and are only machines or automata, but if we had not had men of genius capable of giving a signification to sounds, from which in the course of thousands of years a modulated language developed, to be afterwards transmitted by written signs, humanity would still be at the animal stage. The superiority of man is not an absolute superiority of man as such, but the superiority of some men who have succeeded in drawing after them the rest of recalcitrant humanity (sometimes even adverse to the extent of rewarding its pioneers by derision and death).

Descartes himself, who denies all gleam of reason to animals, still admits that they have sentiments.

In our days opinions are still divided, but the prevailing idea, more particularly among German biologists, is that among animals as a whole and mankind as a whole there is an abyss. For the principle of induction there is no question of an abyss, there is the same essence existing in the whole animal world, but manifesting itself in a more and more complex manner, beginning with the infusoria and ending with the superior type of man. The fraternity preached by Saint Francis is not, for the principle of induction, a fancy or a dream but a reality, for the root of life is one, common to all.

Life, that is induction, manifests itself in the inferior forms in an almost completely mechanical manner, by means of the phenomenon of tropism, by which the ambience, without passing through the senses which do not exist at all in the absolutely inferior animals, acts directly on the induct, engendering a motive force and hence movement.

Lamarck's idea in connection with this is remarkable; it is that in animals the nervous system is nothing but an accumulator of energy taken from the environment, and that the force producing the movements comes from outside and enters the animal. When energy acts directly from the outside without the intervention of the senses, we get tropist movement. When it acts through the senses we get reflex movement combined with sensibility. When it still acts through the senses but also comprehends the world of image, emotion and sentiment, we get the instinctive act or action. When, finally, the reason is brought in we get the reasonable action.

The phenomena of tropism, that is of direct action from the environment on the induct, seem to be a confirmation, purposely designed by nature, of the principle of induction.

The literature of comparative psychology abounds in striking examples of tropism, chiefly of phototropism, that is tropism caused by light.

It is the action of luminous radiations which causes animals that have not even eyes to execute with mechanical precision, definite movements easy to foresee.

The means by which environment can directly modify induction without traversing the senses are innumerable.

Luminous radiations, radioactive emanations and physical and chemical changes in the environment must influence internal induction and cause a change, necessarily followed by a mechanical change, of the predetermined movement. The organism is, in this case, absolutely passive, and we can say that, the movement being mechanical and not being caused by sensation, consciousness is absent. Thus we may describe this state as "non-conscious" and call it "non-consciousness."

But if tropism is more easily observed or rather more visible in the lower animals which have not the organs of the senses, it is, in accordance with the very principle of induction, also present in higher animals and in man, though in the latter it is surpassed, and as it were submerged, by the superior forms of induction.

But is it impossible to deny that in man also every change in environment necessarily causes a change in internal induction. The difference between light and darkness is felt even by the blind, the change of electric conditions in the air, for instance before a storm, is felt by the organism. The influence of a country, a climate, a landscape affects every individual, just as it affects whole races. We may compare this influence to the results of the work of the madrepores which, though each individual madrepore contributes almost nothing to it, is as a whole so great that it modifies oceans and continents, whilst the great cetacea which, individually, make such visible movements in the sea leave, on the whole, a very slight trace on the structure of the globe. In the same way individual actions resulting from the instincts and the intelligence, though very important and obvious, leave a trace less than does the action of tropisms, which are superimposed upon one another and solidify, as we may say, in the course of some generations.

The tropist effect on induction deserves, thus, to be studied thoroughly, above all in our epoch, in which it would be dangerous to disregard the fact that the changes in electric conditions caused by the innumerable modern uses for electricity may have had and may have an influence on induction and, in consequence, on the soul of future generations.

Persons who have to make a long stay in physical surroundings dissimilar to those in which they were born and bred, undergo gradual constitutional changes, sometimes imperceptible, but, in spite of that, great and decisive in the long run. These are tropist phenomena, that is they are the direct effects of the influence of environment on induction. They do not give rise to any mechanical movement, because the neuro-motive force caused by tropism is so slight that it is imperceptible among the other neuro-motive forces caused by the variations of higher induction. This does not prevent the changes caused by it, though they appear separately insignificant, bringing about collectively considerable modifications in the induct.

(17) From the state in which simple tropisms take place, animal evolution passes on to a slightly higher state, in which the senses, with their separate organs, begin to develop, and, in particular, the sense of sight. Environment then acts on induction in two ways: first of all directly, that is to say by tropism: then by modifications of the induct due to sensations, modifications which give rise to movements which may combine with the movements caused by tropism, or may oppose them, or again may be compounded with them in various ways. We thus begin to get the impression of the animal choosing, though we still have to do with mechanical impulses, from the result of which the definitive movement is derived. What exists at this stage is not exactly absolute unconsciousness, but sub-consciousness, not very different from it, and which makes it allowable still to admit, with Descartes and Malbranche, and others that the animals behave like automats, though the result of the two impulses may not be easy to foresee and even gives rise to surprises, whence it follows that the conduct of the animal seems to be guided by reasons which escape us.

From impulse caused directly by the environment, and from that which is caused by the sensations, we come gradually, on the higher rungs of the ladder of animal life, to impulse caused by images, emotions, sentiments and their various combinations, as well as by the memory of images, emotions and sentiments from the past.

The variation in induction caused by sensation causes, in its turn, still through induction, an innumerable series of variations of induction in the surrounding zones, variations which are the more marked the greater is the fluidity of the neuro-mental mass. Thus we get all the associative processes, by means of which we may pass from a simple sensation to a whole series of images, emotions and sentiments which, sometimes, even though half forgotten, make themselves clearly evident by the changes which they work in induction.

All these variations of induction give rise to a series of impulses which combine with one another and give rise to a movement which it is absolutely impossible to foresee, since the internal movements of induction are, for the time being, at least, beyond all control.

This resulting movement is what is called the *instinctive act of the animal*, resulting from the compounding of the emotive impulse with the sense-impulse and the tropist impulse.

The impulse thus derived causes the animal to perform certain actions without knowing why it does so, but with a more or less clear consciousness of its actions. The emotive impulse, in short, compounding itself with the sense-impulse (reflex movement) and with the tropist impulse (unconscious movement) gives rise to a movement or rather to an action in the proper sense of the word, which is not purely mechanical since it is connected with a conscious variation of internal, complex induction, but still forced and compelled, since it is still outside the sphere of reason.

As the result of this complex change in the induct, a change which is still far from the sphere of reason, the animal must necessarily act as it acts, without understanding why or wherefore. It acts as it does because the change in neurality in this zone of the induct causes it to perform these fixed actions and make these fixed movements.

The instinctive act is, thus, caused by a conscious variation of induction, which gives rise to a neuro-motive force that is neither unconscious (tropism) nor sub-conscious (reflex sensibility) but is half unconscious.

This neuro-motive force or half unconscious will causes the said movements or actions, which are enforced, obligatory. Thus the sensation of hunger causes a variation in induction which gives rise to a half unconscious will: that is the will to procure food, and this will must act in a predetermined manner, for it is not a will guided by reason but solely a will connected with the lower sphere of sensations, images and sentiments.

This half-conscious will is clearly manifest, even in man, in cases where higher induction fades away or is weakened.

The simplest example of this is distraction: higher induction is concentrated on a single point (for instance a mathematical problem which absorbs us) and is weakened elsewhere. Yet the movements caused by the semi-conscious will keep on just the same.

But there are more significant cases. When a strong emotion, a violent sentiment—for instance anger—concentrates induction on itself, it causes unreasonable, disordered movements, that is movements not ruled by reason or the higher will, which are temporarily extinguished because of the weakening of their induction. As soon as they resume their sway the man becomes master of himself and is astonished at and repents of what the semi-conscious will has made him do against reason and the higher will.

A person who is constitutionally or temporarily deprived of higher induction acts in a univocal and fixed manner, in a manner exactly corresponding to his conformation, that is to the conformation of his induct in the lower strata of induction, not like a blind and unconscious machine but with the consciousness of what he does, even if what he does is not what he wants to do.

It is thus that in blind anger we may lose control of our actions and do what we don't want to do, but we by no means lose consciousness of what we are doing. That is so true that immediately the anger passes we remember perfectly and we repent the inconsiderate actions into which we were impelled.

We will not inquire whether, if this conformation of the induct in animals is such as it is "ab origine," or if or whether it has been formed by natural selection, following successive selection of all the individuals who, under the action of a certain stimulant, have conducted themselves differently, or whether, more probably, we have here the combination of a natural, original conformation plus continual natural selection. In this way individuals having,

by chance, a too etherogenous conformation or an induct not adapted to its surrounding conditions would be ultimately eliminated. In whatever way this conformation has been created it exists to-day, and as the result of induction within its zone, it gives rise to enforced and fixed actions.

Variation of induction may, in one man, also take place exclusively in the zone of sensations, images, emotions and sentiments, and may not involve higher induction. In this case we get a necessary, obligatory manifestation of neuro-motive force and higher will. Finally the variation may involve both zones, as usually happens, and then the two neuro-motive forces manifest themselves, sometimes concordantly, sometimes in opposition to each other, and sometimes with one predominating over the other.

Contrast between the two neuro-motive forces seems to be very evident in anger, in case of which the neuro-motive force of the semi-conscious will may easily get the upper hand since—as we have seen—when the induction of reason weakens the neuro-motive force of the higher will can only manifest itself feebly. The alternation of predominance between the two forces is, in this case, quite clearly observable, particularly at the moment when the neuro-motive force of the higher will resumes its sway; this takes place in a characteristic manner by fits, and we often get aggressive returns of the other force, caused by the oscillation of induction.

In man these sub-conscious neuro-motive forces (produced directly by sensation, without the aid of imagination, the emotions or sentiments), or the unconscious ones (produced by variations in the surroundings—human tropism) are not negligible either, though at first sight they are less striking.

Simple variations of pressure, or of the chemical or electric state of the air, suffice to produce, automatically and unconsciously, variations in the rhythm of the heart and respiration, and, in general, among the obscure vital forces.

But these subconscious or unconscious neuro-motive forces in man are usually scarcely noticeable, and the conflict, or rather the composition, of these forces is restricted to the semi-unconscious force of the lower will and the conscious force of the higher will.

Schopenhauer had already explained the distinction between the two forms, or rather the two modes of behaviour of the will: *Wille* in general and *Willkuhr* in particular (conscious will), which is the kind of will exercised when we know that we exercise will, i.e. when the outward action which causes the deed is the result of the activity of the brain. According to Schopenhauer the motive results from an exterior stimulation under the influence of which an image arises in the brain, which sets the will in motion and makes it do its work, its physical action. In the human being the image (picture) may be replaced by an idea.

The physiological difference between stimulation and motive may be defined as follows: stimulation produces an immediate reaction

which arises from the part the stimulant has acted upon. The motive is, on the other hand, a stimulant which must make its way through the brain, where, under its influence, an image or picture arises which produces the appropriate reaction, in the given case a voluntary action. The difference between voluntary and involuntary movements is only the different manner in which the manifestation of the will is provoked. According to Schopenhauer one finds in human consciousness (as distinguished from animal consciousness) not only intuitive representations but also abstract motives which have passed through the medium of perception and all act together, whence comes a conflict in which the strongest motive prevails, just as a stronger shock gets the upper hand of a weaker shock.

As soon as the distinction between *Wille* and *Willkuhr* is made, and the latter is looked upon as a variety of the former, it is seen that the will is present even in unconscious processes. All the movements of our body, including the purely vegetative and organic movements, derive from the will, but that does not mean that they are conscious, for if they were conscious it would have to be recognized that they derived from motives, and motives are, according to Schopenhauer, representations (concepts) localized in the brain, whilst the reaction of the will to stimulants is localized in the sympathetic nervous system.

Setting the localization aside (it is much more complex than Schopenhauer thought) we are struck by the connection between the two forms of will, or more exactly, between the two different modes in which the two categories of will-manifestation (according to Schopenhauer), and the two different ways of manifestation of the neuro-motive force (i.e., again the will), declare themselves. The one manifests itself directly, and is produced by impulses, i.e. sensations, images, emotions, sentiments; the other through reason or auto-consciousness, which gives rise also to a motive force, but to one that is based on reason and is no more unconscious.

We must remember, however, that the distinction between the two forms of will, or between the two ways in which the neuro-motive force manifests itself, should be understood not as an absolute division, a well-marked, specified line of demarcation, but as a limit, not always fixed.

Induction is, actually, a unitary process which develops gradually and continuously from its inferior, absolutely unconscious forms to its higher, conscious forms. Thus there is no precise point at which the passage from one form to the other can be recognized. That passage is gradual and almost insensible. There is progress from lower will or neuro-motive force, so little conscious that it may be considered as quite unconscious, such as the will or neuro-motive force which makes the heart beat, through the sub-conscious will or neuro-motive forces which control the vital processes and have varying degrees of sub-consciousness, to the semi-conscious will or neuro-motive force, to the zone of the instincts which has, itself, several degrees of semi-consciousness, corresponding to its greater or lesser connection with the higher world of images, emotions,

sentiments and even with the zone or world of the higher will, which is highly conscious and in which, too, several degrees of auto-consciousness are to be recognized.

(18) The gradual passage from "non-consciousness" to the highest auto-consciousness may be examined under three aspects:

(i) In animals, beginning with the amoeba and ending at higher man.

(ii) In the various functions of man, i.e., first of all the pulsative force of the heart, not reckoning other functions; then in all the functions of human life successively, up to the higher forms of superior induction.

Let us consider, for instance, a complete idiot, in whom even the sensations are diminished and reduced. He would be like a machine, but would none the less be vital, for the lower forms of induction would remain. It is easy to study in him the immediate effects of different surroundings, i.e., of human tropisms, and to experiment with them by variations of light, radiations and ambient physical and chemical conditions. If his induction goes further, i.e., if it attains the world of images, emotions, and sentiments, it is possible in different ways, i.e., the search for food, the desire for reproduction, etc., to discover human instincts which in the ordinary and in the higher man are submerged by higher induction. Then, by choosing gradually more developed subjects, one can follow up and investigate the birth and manifestation of the intelligence up to the point at which it decidedly asserts itself, attaining the average intelligence of man.

(iii) Finally it is possible to examine the gradual passage from non-consciousness to the highest auto-consciousness, by observing a child from its birth, and following on up to its complete physical and intellectual development.

The child is a real, living field for experiment, displaying before us the gradual development of the consciousness. It starts with the most complete lack of consciousness: later it passes through undifferentiated consciousness as seen in babies and the higher animals, finally attaining individual or auto-consciousness.

The passage from undifferentiated consciousness to individual consciousness is most plainly visible in the child, who always begins by thinking and speaking of himself in the third person, making no distinction between his own "self" and that of others. All are third persons to his induction which, even while speaking in him, is not yet himself.

This induction, however, becomes individual at a certain point and is transformed into consciousness of self. At the same time the centre of his world, which seemed only to exist outside him, so that he spoke of it in the third person, as though it were another being, secures its place and identifies itself with him.

The individual, having thus become the centre of his universe, loses contact with the cosmic consciousness of the world, which only

exists for him in so far as his individual induction can perceive it. Hence comes the subjectivism of the individual and, in general, anthropocentrism, egocentrism and the various illusions and errors appropriate to this individualization of induction.

When, however, induction, having passed through the stratum of reason, becomes, in its maturity (and that only in a few more gifted persons), pure intuition, consciousness again becomes universal, no more confusedly or in an undifferentiated way, but with a lofty recognition of the unity of induction of which all individual manifestations are but a purely fortuitous reverberation.

We must not, however, fall into the mistake of believing that there are three forms of consciousness, so that at a certain point one has to leave one of the three, as a serpent sheds its skin in order to put on another.

What we have here is not the plurality of forms contemplated by S. Bonaventura and the Augustinians of the Middle Ages in their philosophies, nor is it a case of distinct consciousnesses replacing one another. Induction is, as has been said, unitary, but gradually, as it reaches a higher level, it acquires greater detail, while still retaining its lower forms. The undifferentiated consciousness of animals and young children persists in the normal man, and the individualized consciousness of the normal man persists in the higher man, even when it has been able to reach the stage of universal consciousness, which includes the two former stages and absorbs them into itself.

The passage from one form of consciousness is gradual and progressive. Not only is it not easy, it is impossible to fix a limit which is not conventional, below which induction only gives rise to undifferentiated consciousness, beyond which it gives rise to an individualized, or, further a universal consciousness.

The latter, above all, which becomes evident when induction attains the level of pure intuition, is subject to the greatest possible changes and oscillations, not only in one individual and in another, but even in the same individual, so that the universal consciousness sometimes disappears and sometimes declares itself more strongly. Sometimes the individual consciousness gets the upper hand; sometimes it may be completely absorbed by the other. We get variations of perception corresponding to the variations of consciousness.

Non-consciousness has obviously no perception. Perception begins when consciousness begins to exist, even in its undifferentiated form.

In this case we obviously get a perception limited to the modes which exist. Stimulation may, thus, cause a disagreeable or an agreeable sensation, may even, if induction reaches so far, give rise to an emotion or a sentiment, but it cannot go so far as to cause a decision based on reason, still less to awaken rational or abstract knowledge. A horse or a dog can, for instance, perceive the presence of a man and recognize him; this presence may even evoke emotions and sentiments in them, but neither the horse nor the dog can ever come to have an idea of man or humanity in general, except as

represented by an individual man or by the few persons the sight and presence of whom act directly upon them.

In individualized consciousness stimulants act in a similar manner, so far as concerns the lower forms of induction, but as induction is unitary the stimulant acts not only—except where we get a momentary weakening or the complete absence of higher induction—in the zone of the lower forms of induction; it also causes variations of induction in the higher zones, and the individual acquires the *actio*-consciousness of the movement which he would be obliged to make, failing higher induction, and may interfere to modify it, combat it, or act in quite a different way.

Gradually as consciousness becomes individualized the exterior world separates itself more and more from the *ego*, and the *ego* looks upon itself as a completely foreign reality.

When induction becomes pure intuition we get that detachment of the individual consciousness which is characteristic of the Saints and of superior human beings.

The higher *ego* is absorbed into the absolute *Ego*, acquires the consciousness of its universality and detaches itself from the acting *ego*, the empirical *ego*, which remains individualized. The higher man lives two lives: one in a higher sphere, the other in the ordinary world, he attains the consciousness that thought is not his individual thought, but a universal thought which thinks in him, that his feeling is a universal feeling which feels in him, and that even his sensation is a universal sensation, perceived in him.

Consciousness is universalized and on the one hand attains to the knowledge of higher worlds, inaccessible to common thought, and on the other hand to the knowledge of surrounding worlds—this knowledge not being obtained through transitory stimulation-sensation, but coming direct from on high. From its lofty position it at last realizes that the individualization of the *ego* is only a contingent phenomenon, resulting from incompletely developed induction, and that the real *ego* includes within itself all other entities and the whole world.

"You are all that" say the Indian sages, referring to the whole world, "and if you offend the others you offend yourself, whereas by loving them and doing good to them you do it to yourself."

Not only are we all sons of the same Father, since we are all of His essence, but, moreover, we are all in Him, and that same Father is in us all, even if, in our infinite misery, we cannot see it.

CHAPTER VI

KNOWLEDGE

(19) LET us now consider the case of a completely developed consciousness which has reached the highest forms, the most conscious ones: knowledge of conventional reality can then be obtained either

by pure intuition which—to make use still of the metaphor of the abyss—flies over it and darts down from on high on conventional reality; or it can be obtained through more common-place and transitory stimulation-sensation.

This process of the conquest of reality—whether it proceeds from on high, as pure intuition, or rises from below as transitory stimulation-sensation, or whether it manifests itself, again, simultaneously from above and from below, is—according to our principle—but a variation of induction in the corresponding zones of pure intuition or of sensation, or of both. This variation exerts its influence either by descending from on high or rising from below, or flowing from both sides simultaneously into the intermediate zones of reason, of the sentiments, emotions, etc., modifying correlatively the induction of these zones. The reality, once it penetrates us by one of these two ways, or by both, takes root in us. Afterwards it is developed by the contiguous zones and, above all, by the zone of the understanding. All these variations of induction give rise to corresponding neuro-motive forces. If, failing the higher zone of reason and of pure intuition, the variation proceeds solely from the lower stratum, we necessarily get the instinctive movement and the enforced action as discussed in the preceding chapter. If the zone of reason is involved the corresponding variation of induction gives rise to a lower kind of neuro-motive force, which is purely automatic and derives from the lower stratum and belongs to it. If pure intuition is present the variations of induction and, correlatively, the various neuro-motive forces which derive from it, become complicated.

If, finally, we admit, at least theoretically, that (as in certain cases of asceticism) the transitory stimulation-sensation may be absolutely inactive, reality will reach its goal exclusively through pure intuition, giving rise to neuro-motive forces of an absolutely higher order, upon which those which derive from the instincts have no more influence at all, even as partial components.

Whilst the knowledge which comes in the ordinary way, by transitory stimulation-sensation (for the sake of brevity we will call it *relative knowledge*), puts us in contact with the entities included in conventional reality, or rather makes them rise up within us, pure intuition puts us into contact with higher worlds unknown to the average man, as well as with the same entities, belonging to conventional reality, which it, too, raises up within us. But it does it as it were by means of a descent from on high, and thus no limits are imposed upon relative knowledge by the limitations of our senses and intellect.

The limitations of our intellect have nothing to do with pure intuition, which is above the intellect, just as the intellect has nothing to do with the limitations imposed by the nature of sense-perception. It is known that our organ of sight only perceives the vibrations of light comprehended between red and violet and formerly it was not thought possible that there were other vibrations below and above these. When a chemical preparation was discovered by means of which it was possible to get a photographic reaction caused by the

invisible infra-red rays, it was as if a veil had fallen from the eyes of the spirit, for the intellect is not limited as the physical eye is. Other vibrations were at once taken into account, and to-day there is nobody who doubts their existence, even if they are invisible to the naked eye. The intellect has also fixed limits in certain respects, but pure intuition crosses them. Pure intuition above all, which puts us into contact with higher worlds, is so far beyond the limits of the intellect that we actually find it impossible to express it adequately. It follows that whoever has had pure, higher intuition, whether in connection with asceticism, artistic beauty, truth or justice, can only describe his sensation by the word *ineffable* and however he may try to give expression to his experience, whether it be by words or by works of art, he will never be able to express fully what he has known. Hence he will always be dissatisfied with the obscure and limited account which his intellect can give of that light, imperfectly seen under his particular conditions of body and soul. Since pure intuition proceeds from higher induction, i.e., the ceiling of induction, it is liable to the greatest variations. There are differences between individual and individual, and very marked oscillations in one and the same individual. The oscillation of induction in a stratum fixes the character and decides the nature of inspiration or invention. Hence comes the conviction which all exceptionally gifted individuals have that their inspirations are of divine origin. Whether these intuitions of theirs have to do with a new artistic idea, a new ideal of goodness, charity or justice, or a new logical development of thought, some religious, moral or juridical system or maybe some scientific discovery or technical appliance, those who have had them, i.e., geniuses, do not know how they have come to have them. Even if work based on an "idea" has preceded them, the inspiration is most frequently sudden, coming through an increase of induction which must be quickly taken advantage of, even at the very moment in which it takes place. A genius has a definite feeling of the coming of this increase, and gets ready to receive it and to gather its fruits, for he knows that induction, being the very highest of human faculties, does not last long and must be quickly made use of. Its force, developed and combined with the forces derived from lower induction, evolves and is transformed into works of art, organization and invention.

What is needed, in fact is an actual capture or seizure of that higher force, which is entrusted to exceptional individuals, whose importance to the community is immense, for the thought-force in a thousand combinations is what gives rise to all movements and all social progress.

Pure lower induction is the kind which, preceding too from the higher level of induction, but in a somewhat lesser measure, brings us to knowledge of reality, a knowledge which generally speaking, merges into *relative knowledge*, i.e., that kind of knowledge which comes through transitory sense-stimulation.

This kind of induction is not reserved for exceptional people, but is found on various rungs of the ladder, among men who have

attained a certain level, among ordinarily intelligent persons. It is particularly evident in women, who come all at once upon reality, without having recourse to working out ideas, which latter are rather lacking in the really feminine woman. The result is that this sudden growth, almost by leaps and bounds, of intuition often has no practical result. Women are unable to elaborate a conception. Several misogynists, ~~Waininger~~ to begin with, deduce from this the congenital inferiority of woman. We rather argue that her superiority should be maintained, for, if we consider an ordinary man and woman, we must recognize that the former attains a level of induction which the other finds it difficult to reach. Persons accustomed to dealing with uncultured people, above all in the country, know that if they want to make something understood they have a better chance of conveying it if they address a woman, because a man, who tries to make use of reason, gets lost and understands nothing. An illiterate peasant when he has to do with an educated man generally prefers to let his wife speak for him, reserving the right to learn through her all that his interlocutor says and wishes.

The chief reason of the great number of conjugal disagreements is the result of the lesser comprehension of the man, for the woman perceives confusedly that what she understands by means of intuition is correct, yet is not able to give her husband reasons for her view. He cannot follow her and gets lost in a thick forest of reasoning, which he cannot get out of. A very obvious example of this is given by Manzoni in his novel, *The Betrothed*. Perpetua, without tangling herself up in speculation, gives Don Abbondio good advice. Don Abbondio, on the other hand, plunges into argument and can't find his way out of it. Cardinal Frederick arrives, by reason of his superior mind, at the same conclusion as Perpetua had arrived at at once.

The pretended superiority of men is, thus, merely the superiority possessed by superior men, who have reached the level of pure intuition, and have the reasoning power necessary for the elaboration of ideas. They thus combine the intellectual with the intuitive faculties, and we get, if they reach higher intuition, what we call genius. We can deduce from this, without fear of error, that genius is composed of the spiritual intuitive feminine qualities, plus the fundamental masculine characteristic of reasoning.

The ancient idea of the matriarchate bears this out. It was natural that, in a primitive human community, in which reason had not developed beyond a primordial state, the intuitive faculties should have the upper hand and guide man, who willingly had recourse to the Druidesses (women specially developed in this respect), to the Sybils or Pythonesses. Gradually, as reason developed, it got the upper hand of intuition, which was ignored and almost scorned.

(20) If pure intuition in its higher form can bring us to knowledge of higher worlds, and if, in its lower form, it can conduct us to an inspirational knowledge of reality, we must not forget that our ordinary world—the world with which we come into daily contact—in a word

the world where our everyday life is lived, is perceived by us, and sometimes chiefly perceived by us, through transitory sense-stimulation.

But—and it is at first sight a peculiar thing—the knowledge which comes to us in this way is never complete and cannot become clearly conscious if, at a certain point, the intuitive flash does not come to its aid.

The senses and the intellect begin to give us a knowledge of external things, a description, a likeness, by the help of which we seek, in our mind, what corresponds to them. We have at times in our minds an object, an idea, for which we seek the proper name or expression and are not able to find them at once. We find other, analogous, ones but they are not precisely what we want. We have a sensation of uneasiness, which lasts until, by a sudden inspiration, we get the word or the phrase corresponding perfectly to the object or idea which we had in our minds.

To make use of a commonplace but expressive comparison, let us suppose that a customer goes into a shop to buy something which he has in his mind to get, but of which he does not know the name and which he cannot exactly describe. He will give an approximate description to the salesman who is trying to show him likely things, but he cannot identify the thing required. The customer is on thorns until the moment when—the salesman having guessed rightly—he is able to cry out in relief, "Yes, that is what I wanted!"

But putting on one side comparisons which are always approximate and rough, we may say that sudden identification is the *intuitive flash*. It is preceded by an investigation, made up of descriptions and successive approximate guesses, an investigation which is the work of the intelligence, which prepares for and facilitates intuition. Often, however, the flash of intuition comes independently, without any explanation or description.

While admitting that, conformably to the principle of induction, knowledge is a homologous arrangement of nervous forces and currents, by means of which we reproduce the outer world within ourselves, we should recognize that the senses and the intellect cause, at certain points in the individual, a variation in nervous force, due to which a group or bundle of forces tends to intervene in the matter, either by means of stimulation-sensation, by reasoned conceptual elaboration either of the material sent up by the senses, or that sent down by pure intuition.

The easiness or difficulty with which these forces come to intervene homologously depends obviously on the fluidity of the neuro-mental material and the dia-neurality of the surrounding matter.

When the forces at work have, more or less painfully, according to the individual and according to the conditions of the moment, approximated to homology, the decisive moment comes, the moment in which they suddenly reach it. It is just in this that the *intuitive flash* consists. If this moment does not come, the forces remain approximately homologous, and the world which we reproduce within ourselves has not reached that point. Knowledge remains confused, inexact,

even erroneous. For we do not reproduce the matter clearly within ourselves until a bundle of forces exactly similar to the thing in question, has been formed within us, and when we speak of the thing we generally mean either a material thing, a living person, an image, a fancy, an emotion or an idea. All these things may be reproduced homologously within us and thus we may perceive both an object which makes itself evident through our senses and which causes in us a variation of nervous force, and a concept or train of reasoning which may cause within us a homologous grouping of the corresponding induced forces.

Forces can be disposed in an infinite number of ways, and the whole universe can be reproduced within us—the whole universe which, in its depth and extent, can get into our limited individuality, that is, the knowable universe, for the other is the immense ocean of nothingness, which, as it cannot get at our individuality by any way, is for us as though it did not exist, until, by means of special instruments, the inductive capacity of the individual is amplified in its depth and its breadth.

Memory is the faculty by which the bundles of forces which have been already formed keep together as bundles for a longer or shorter time and perhaps for ever. They may be submerged by other induced matter, which comes in, and may remain, consequently, unperceived and, as it were, dormant for several years. Certain fortuitous displacements of induction, either fortuitous determined by the attention or the will, may at a certain moment, make them flower again and the memories which were thought to have been extinguished revive. They return more particularly at the more critical periods of life, when induction is most violently disturbed, such as in case of danger, or at the moment of death. The whole life then is represented, as a rule, with inconceivable swiftness, by means of a phenomenon akin to the dream of a person suddenly awakened. (*See par. 5.*) Forgetfulness is, on the contrary, the more or less rapid dispersion of the bundle or group of forces, in cases where it has been insecurely tied together.

We get a thousand different combinations in individuals, which are due to the rapid formation of homologous bundles or groups, to their duration, to the greater or less difficulty of their formation, to their more or less prompt dispersion.

It is evident that, if the fluidity of the neuro-mental matter is considerable and the dia-neurality of the surrounding material minimal, homologous disposal will take place promptly and completely without the aid of approximation due to the senses and conceptual development.

This very great fluidity and very slight dia-neurality are present when there is pure intuition. This is more or less accentuated according to the extent to which the two above-mentioned conditions are present.

Knowledge of anything comes to us by reason of a homologous disposal of neural forces which corresponds to the thing in question. This disposal may be facilitated by the senses and the intellect and

by intellectual development, but in the most gifted individuals it may also be independent of them. In any case, this preparatory action of the senses and intellect is of very little value if, sooner or later, here or there, according to the more or less intuitive character of the individual, the intuitive flash does not come, that is, if the group of forces is not disposed in a manner homologous to the thing in question.

There are, thus, only two distinct ways of knowing—the way of sense-perception and intellect and the way of intuition. These ways are variously combined in man. The material which comes by the first of these ways may set in motion neuro-motive forces of an inferior order, unconscious and instinctive, and may rise up to the highest level of intelligence. The material which comes in the other way comes down through intuition, passes through the intellect and is thus united to the other kind and the result is complete knowledge. The material may, in some specially gifted persons, get through quite whole, by the higher way, and may make its way down to the intellect and to the spheres of the sentiments, the emotions and even the sensations.

The first case, in which the matter is exclusively communicated by the narrow bridge of transitory stimulation-sensation, is the case of animal life, from its lowest spheres, upward. In the lower spheres sensation results directly in neuro-motive force. In the higher, the matter communicated may be of superior quality and may belong to the sphere of images, emotions and sentiments. It may even approach, very closely, the sphere of reason.

The second case, the case of the material coming jointly from two sides, with innumerable intermediary graduations, according to the amount brought, is that of the normal man.

The third case, that in which the material comes from on high, if not exclusively at least preponderantly, is that of the superior man, the genius, the saint, the ascetic.

(21) The fact of neural homology presupposes two elements, which are the subject and the object. The object is part of conventional reality, for we know nothing of its essence and all we know about it is the little which we can revive in ourselves homologously. But however limited our knowledge may be, we do know that the subject as well as the object is neither rigid nor fixed.

The subject is only a collection of induced neural forces and, in consequence, it is essentially unstable, exposed to innumerable variations of inductions, due to the modification of the induct, to the influence of reciprocal inductions, to an eventual variation of the inducing field, or to the interferences of other radiations and, finally to auto-induction.

The object is also of the induced world, which moves and is transformed incessantly but, in any case, even if we suppose it to be fixed, the reality which we know, that is to say its essential reality, is always what is revived in us, in our induction. It is consequently, still

more unstable than our induction. Thus in accordance with the principle of induction we must exclude the idea of fixity in the subject as well as the idea of the persistence of identity in the object. The object and the subject are two variable quantities in a variable world and they mutually influence one another.

The bond of homology, which is made in a moment, holds only for a moment. Where it is established and is to be maintained it must vary with the variations of the subject and the object. Otherwise it will cease to exist.

When the bond ceases to exist the group or association which has been formed in us remains bound to our variations alone, and we retain the memory of the thing as it was when we first perceived it; i.e., the thing itself with the changes due to our induction. Hence comes the surprise, for instance, of a person who after a long absence sees a town or a locality again. The memory which he has of it has in a certain way changed in him, whereas the town, the atmosphere, have changed in quite a different manner, maybe in an entirely contrary direction.

If the connection continues to exist its constituents must vary, for the subject changes and so does the object, and that continually. If we assume that the subject and the object remain unchanged for an indeterminate period of time, which is practically (but not theoretically) impossible, on account of the innumerable changes continually occurring, we continue to see the object in the same manner and to have the same impression of it as before. But that is not what happens: something which we thought beautiful ten years ago may now appear ridiculous to us. An idea which we have supported in the past now appears to us to be childish.

This is because the changes in the subject and the object are continual. Material objects, such as stones, metals, etc., are no doubt, subject to very slight changes and their variation is thus limited. Science, forming a conception so far as it can of the changes taking place in the subject may, when dealing with material things, form an idea also of the changes in the object, and may take its stand on the principle that the thing itself persists as an entity. It may pay but little heed to the changes which, in material things, are negligible from its point of view.

We say that these changes are negligible, but that does not mean that they do not exist, and in any case, they are by no means negligible when we have to do with entities or values quite other than material things, rigid conceptions or mathematical concepts.

For instance sociology, economics and finance cannot get scientific results or make invariable general laws if they form abstract ideas about the essential variability of the entities which form the object of their investigation.

We can, however, generally speaking, lay down (even as concerns the most constant physical bodies), the following fundamental principle, which is valid for all entities:

Every entity, whatever its kind, has an influence on other *entities with which it has to do, is influenced by them and influences itself by auto-induction.*

We may pass on from this principle to another which is still more general, namely that: *the environment of an entity is neither an entity nor an incomplete entity, but an unstable condition, and thus every point in the universe is in a momentary and unstable equilibrium resulting from the forces which, at a given moment, act upon it.*

CHAPTER VII

THE CONCEPTIONS OF TIME AND SPACE— CREATION

(22) We have already seen (see Chapter II.) that psychologically the conception of time is connected with induction and even with its variations.

The ordinary idea of time is connected with the variation of induction in the induct (in the pulsation of the blood, movement of the earth, variations in intensity in the source, etc.).

If the variations become irregular our conception of time also varies irregularly (as in dreams, grief, expectation, boredom, pain).

If we presume that induction can vary infinitely, becoming infinitely great or infinitely small, time for us gets beyond all ordinary measuring and becomes eternity or a moment.

Taking the first case, if an infinitely great amount of energy is induced, i.e., if the frequency or strength of its oscillations increases to infinity (or if, according to other theories of induction, we have other factors which may increase to infinity), we live a whole eternity in a moment.

On the other hand, if the frequency is reduced to nothing, and the strength of the waves to zero (which is impossible, because in that case the induction would cease, but we may admit it as a theoretical limit), an instant would become, for us, an eternity.

In other words, there is no difference between a moment and eternity except the mode of receiving induction. If induction is conceived as a force it is beyond time. If it is conceived as a secondary phenomenon induced into us in the usual way, it manifests itself in the ordinary way, known to everybody, regulated in accordance with the ordinary phenomena of physical life surrounding us, and especially in accordance with the manner of manifestation of solar irradiation, by which, again, our instruments are regulated. A clock thus marks the hour according to the conception of time of the induct, which, in its turn, conforms with the average of induction in the solar world. Time on a constellation or a very distant nebula would be, hence, very different from terrestrial and solar time in general and would vary according to the manner in which induction made itself manifest on the constellation or nebula in question.

If we, with our induct as it is actually constituted could go to the constellation or nebula, we could not understand its conception of time and if, through a process of adaptation, our induct adapted itself to the local conception, our clocks would be no use and we should have to have recourse to other, quite different instruments, of course completely unimaginable in our present state.

We thus get in the world subject to induction, a double process of variation of the idea of time. The first process has to do with the general manifestation of induction on the earth, or at any rate in the solar world, and it gives rise to ordinary time, measured by the clocks, that is based on the alternations of the sun and the seasons; the other is absolutely individual and gives rise to a kind of ordinary time, individual and in harmony with the structure and special conditions of each induct.

This latter kind may be seen in everyday life. We continually feel that the conception of time varies in us under the influence of emotions, affections, states of mind of all kinds, which influence our induction. We are accustomed to say: The time seemed short to me, or: The time seemed long to me, it flies, it is endless and so on. But that all seems to be still more evident in animals. The well-known patience of animals when hunting, watching, etc., is not patience, for if it were it would give rise to a reaction, i.e., to impatience. It is not patience: for them the time simply does not pass: it is shortened as compared with the time told by the clock. In many animals it is easy to note a physical variation in the induct, for instance the hunting dog when on the watch becomes virtually entranced. Time does not pass for it until a shot or some other exterior shock galvanises it, renewing its induction, its normal state and in time its pace.

The same phenomenon is observable with the fakirs, but in their case it is voluntarily produced. By special and artificial practices, some secret and transmitted to initiates, some due to long ecstasy, they succeed in modifying artificially, partially or altogether their own induction and in consequence in slackening and even actually suspending time, which, for them, ceases to pass. They thus succeed in remaining in impossible positions, apparently dead, buried alive, frozen into blocks of ice for a period which, to strangers used to measure time in the ordinary way, seems enormous, whilst for them it is not much more than a moment.

The arrest of induction and, in consequence, of the course of time, due to freezing, may be seen also in some other curious cases. Frogs, fleas and other animals can remain frozen for years and even for periods much longer than their normal life and when thawed they resume life at the point where they left it off. It is not that they had lived longer than their kind, but time did not pass for them, or maybe it passed at a slower rate. Before the arrest of induction caused by freezing, invincible somnolence, preceding stupor, which is the characteristic phenomenon showing the diminution of induction, becomes apparent.

A historical phenomenon of the kind which has given rise to many discussions, is the stopping of the sun by Joshua. Here we have neither a tall story nor a symbol, but a reality. For the combatants, animated by the ardour of battle, excited by the ecstasy of victory, time, that is the sun, really stopped. They lived in one day as much as others in a year, because their induction increased with so much intensity that it made them live years in a day or in an hour. There is not fighter who does not remember some similar hour of exaltation. That hour fills his life more than all the successive events, even if the latter continue happening for dozens of years as reckoned by ordinary time. The phrase of the unnamed fighter on the Pieve: "It is better to live one day like a lion than ten years like a sheep," is not only a heroic statement but also one with deep philosophical value. From the point of view of induction it is pure and simple truth.

(23) The conception of space is quite analogous to that of time: it is the place, situated in infinity, where nothing and immensity unite. In us, it connects up with our circumstances, on which the various irradiations (giving rise to our consciousness, to matter and to the whole scale of our energies and intermediary irradiations) react, and with which they interfere, influencing one another and inducing. When ordinary conditions change in our inductive selves or in surroundings, the conception of space changes too.

Space and time within us, that is to say in the induced world, are not fixed but are essentially variable. It is as if one of these passed and the other extended, but we have to do with forms only. The variation of our induction from the world surrounding us is connected with these. Outside our being, that is, in the inducing world, there is neither passage of time nor extent of space. It is absolutely outside both of them for they are dependent solely on the forms and manifestations of our induced world.

If the source is beyond time and space it cannot be said that Creation has taken place either in the present or in the past, or that it has still to take place, for these conceptions are connected with our induction, apart from which they have no meaning. The Universe exists for us because from the narrow point of view of us with our very scanty dose of induced force, it is perceived to exist, but it might be that it has never existed, or that it does not yet exist, except as a manifestation of induced forces, which, by their peculiar action in our induced being make it appear to us as we see it and feel it. Creation is, thus, not only beyond the past and the future, but also beyond the present, although for us, and only for us and in the form of portions of induced force the created world exists, at least in the present, in which it may and should be conceived solely within the limits of our temporary powers of perception: the moment and eternity: space: nothing and immensity.

Creation is, within the limits of human comprehension, nothing but the irradiation of divine induction *which makes itself immanent*

in various forms, remaining always transcendent above the same immanent forms.

This conception conforms to the Bible idea of Creation, which is not one of Creation brought out of nothing, or of the modelling of certain forms out of pre-existing formless matter. At the beginning there was nothing but God, and as there was nothing but God, God created the universe only from Himself, by means of successive irradiations and by the organization of His irradiations as symbolized by the six mythic days of Creation. The Universe remains God, even while, henceforth, it is exterior to God.

His transcendence is eternal, while His immanence is mortal since it is variable. It is the smile on the face of God—as in the biblical expression in Psalm 104—which keeps perpetually renewing Creation. It is the mystic river that has its source on high and makes the whole universe out of itself and irradiates it.

THIRD PART

AN INTRODUCTION TO PRACTICAL INDUCTIVE PHILOSOPHY

THE FOUNDATIONS OF OBJECTIVE MORALITY

CHAPTER VIII

THE NEURAL REFRACTIONS

(24) THE conception of a transcendent God, who induces from the height of his immanence gives us no idea about His to us absolutely unknowable nature, which is higher than we can possibly conceive. If there is a God, Pascal thought, He is infinitely incomprehensible, for He has no parts or limits. He has no correlation with us: hence we are incapable of knowing what He is and if He exists.

God is so high above our little joys and sorrows, so high above our ideas of good and evil, and above our intelligence and will, that, according to Spinoza to define Him is to limit Him, and in consequence, to lessen Him, that is to try to make Him remain within the narrow limits of our powers of conception.

It is possible at most to think of Him, with Plotinus, negatively, i.e., excluding all characteristics which might limit Him, including the idea of Good. In this way we arrive at a conception analogous to those of Erigen or of Zohar: "God is nothingness, since He is nothing of that which we understand," or again at the conception of a non-Being previous to the Being. This is the basis of the Buddhist conception. But even Buddha forbade all speculation as to what he is, considering it to be absolutely illusory or over-bold. All philosophies and all religions agree in that, if we do not confuse the conceptions which religions place before peoples with their metaphysical basis.

But even if the conception of a God transcendent in His immanence does not explain His inner nature to us, it may yet throw light upon His manner of manifesting Himself.

Just as in the physical order of things we know little or nothing of the sun and still less of the nature of its vibrations, and yet we know that these radiations reaching the earth become *light* and *heat*, so also although we know nothing of the Source, and very little about the radiations which flow from it, yet we know that these radiations reach our induced selves, giving us an idea of the Divinity—a pale and distorted idea, if you will, but the only one accessible to us.

It appears that at the distance of a few score kilometres above the surface of the earth, the radiations proceeding from the sun are no longer perceptible to our sense of sight. That means that they are

no longer light for us—hence light, although it proceeds from the sun, is bound to the earth and to our sense of sight. The radiations from the Divine Source are similarly, for us, connected with the earth and with our faculty of reception. It may be that in other conditions, for instance on other planets, or in other worlds, God, although He is only one, appears differently, just as it is possible that the sun, seen from Saturn, appears under another aspect. For us, inhabitants of the earth, the visible and perceptible manifestation of the sun consists of light and heat, and the other manifestations, which in accordance with our conditions as inhabitants of the earth, we have been able to identify, if not directly by means of the senses, at any rate indirectly, by means of instruments.

But just as various refractions may be distinguished in the light, which, in order to classify them conveniently, we are accustomed to group more or less as seven colours, in accordance with our system of classification, so in the manifestation of the Divine through the nervous system, we can distinguish several orders of vibrations which our consciousness perceives separately and which, also, may be grouped in seven groups or fundamental refractions if we will.

These seven fundamental refractions are: the Pleasant, the Harmonious, the Beautiful, the Good, the Just, the Logical and the True.

Beyond the refraction of the Pleasant we shall get the refractions of the Super-pleasant and beyond the refraction of the True, those of the Ultra-true, which our nervous structure does not enable us to perceive. That structure, it must not be forgotten, is a receiving apparatus, with all the limitations appropriate to it—consequently the refractions which it perceives vary according to its characteristics or its faults, and according to the reciprocal reactions and inductions mentioned in the preceding chapters.

The first refraction of the pleasant gives rise to pleasure, i.e., to the capacity to enjoy physical well-being, health, sport and the natural satisfaction of the senses.

The refraction of the Harmonious gives rise to harmony, to which the sense of musicality corresponds. Music (musical creation) is its physical expression and its vehicle of communication with other men.

The refraction of the Beautiful gives rise to beauty, to which corresponds the aesthetic sense and its manifestation in the physical world is art.

Good gives rise to goodness, to which corresponds the ethical or moral sense of what is just. This manifests itself among human beings as *law*.

The refraction of Logic gives rise to logic, to which corresponds the reason and this makes itself manifest among men as reasoning.

Finally, the refraction of the True gives rise to truth, to which corresponds the feeling of what is true. It manifests itself among men by truth itself. There are not actually two different words which can be used to distinguish between truth as a nervous refraction

and truth in its relation to man—unless they be designated respectively as absolute truth and relative truth.

These are the pure refractions, and there is a whole corresponding series of contrary ones: pain, lack of harmony (dissonance), ugliness, wickedness, injustice, illogicality, lying; due to faulty means of reception, due to the faultiness or insufficiency of the nervous structure, to the effect of reciprocal induction or to other analogous causes.

(25) The first refraction, that of pleasure, which may at first sight appear negligible, is, contrariwise, of first-rate importance. It may be said that it is to the other refractions what the first colour—red—is to the other colours. In order to feel it, it requires—like all the more subtle refractions—a state of grace: which must not be confused with vulgar hedonism.

In its pure refractive form it is rather rare, and modern civilization tends more and more to stifle it by means of the action of strong social inductions, directed upon other refractions.

Real natural enjoyment which brings us near to God in the just and innocent satisfaction of the senses, in a complete state of well-being of the whole organism, is more and more difficult to regain for civilized persons and brains like ours. The spontaneous and ingenuous gaiety of the daughters of Pheacia, dancing and playing with Nausicaa is becoming rarer and rarer. This natural sensation of pleasure is only found in certain primitive peoples and among simple folk. It is among these latter that one may still to-day—in spite of all—find the pure who follow their instinct and act naturally, conformable to divine laws, enjoying a happiness which has no cause and asks for none, which is happy just in itself. Woman, much more instinctive than man, is more subject to this refraction, and the humbler her condition, the greater is her natural felicity, proceeding from youth, health and sexual expectation. She is less spoilt by conventions and the effects of life with other human beings. One is more likely to hear a little servant girl or a young peasant woman sing than an educated young lady or a man of the upper class.

In a word, it is always so that nearly everyone would be content with his fate if he did not think that others were happier than he. Men in general pass their life in envying others, whom they believe to be superior, and in making themselves envied by those whom they believe inferior. The refraction of pleasure thus consists in the satisfaction of the senses of hearing and seeing, but in a manner quite independent of music and art.

It is present, for instance, in persons with a good disposition, enjoying good health, who are in the open country, comfortably seated or stretched out by the bank of a stream, with a beautiful view before them, and who are lulled by the murmur of the waters.

All idea of art or aesthetics is excluded from the sight of the landscape and no idea of harmony or music is associated with the hearing of the murmur of the water, and yet the pleasure of the senses, reinforced by the well-being of the whole organism, may give, under

their influence, to souls prepared for it, the real spontaneous sensation of pleasure.

The refraction of pleasure is also associated with the sensation of the "herioc," of the "Dionysian," with the primitive satisfaction of conquest; the exaltation of passion, of impetuosity, of the spontaneous natural forces as opposed to the rationalizing moralising elements, more apt to receive refractions placed at the other extreme.

It is to be frequently met with, under the forms referred to in Homer's poems, it inspires the life of primitive peoples to a disconcertingly preponderant extent, it constitutes the basis of the natural religions, such as paganism, and is always active, for the more the influence of modern life tends to change and to annihilate it, the more it returns periodically in the longing for the primitive and its pagan and Nietzschean returns.

As we approach the limit of human perception, the refraction of pleasure melts gradually into the infra-pleasant, into voluptuousness, into painful voluptuousness, into sadism and suffering.

Again if we approach the refraction of harmony, we find halfway dancing, that sublime combination of the pleasant and the harmonious, which, to be perfect, should be pure, free from voluptuous or aesthetic vibrations; when the aesthetic is mixed with it, dancing approximates to the refraction of beauty and thus becomes a spectacle, choreography.

The refraction of the harmonious is that which most easily opens the gates of heaven to most men. It carries one away, it gives the sense of God's presence. While it is associated with the refraction of pleasure, it is also connected with the "heroic," also with the exaltation produced by heroic and noble work. Should we have the impulse to collective self-denial—as seen in war, in national rejoicings, in the glorification of heroes, the charm of the military, regulated, cadenced, even religious cults—if we had not the power to raise our souls to God by means of the refraction of the harmonious, which expresses itself above all in music and has so deep an influence on human souls.

Between the refraction of the harmonious and that of the beautiful comes poetry, whose rhythm also influences human souls in a surprising way.

The refraction of the beautiful shines with a pure light in the souls of artists capable of giving form to the intuitions. It also shines, more diffusely and more nebulously, in the souls of men of taste, art critics and amateurs. Finally it is found, though falsified and altered, in all souls, even the most ordinary ones for whom the pure refraction, without any part of the harmonious or the agreeable, is too subtle to be perceived directly. Yet even though obscured by reciprocal inductions, the original basis is always the same, unique and identical, the sense of the beautiful is constant, and the artist who is able to seize and express it, the critic who is able to explain it and indicate it, secure the assent of the masses who, previously, could only discern it confusedly and who are grateful to them for having raised the veils, lightened the clouds.

We pass imperceptibly from the refraction of the beautiful to that of the good, which is the fundamental refraction for the spiritual religions which, although they combine the refraction of the just and of the good with that of the harmonious, principally depend upon it. The natural religions, on the contrary, are chiefly based on the refraction of the pleasant and expand from it to the refractions of the harmonious and of the beautiful, ramifying still further into those of the good and the just.

The refraction of the good, and often that of the just, burn in the souls of the saints and of higher men, and permit their communion with God by means of charity, edification and asceticism. Ordinary man has a confused perception of this refraction, as well as of the more austere and subtle refractions which come after it. His confusion is caused by the defects of his own apparatus, of his auto-induction and by reciprocal inductions, but as we shall see, he is helped by the induction of strong complex forces—which we call nervous constructions—such as religion, society, law, etc., which are calculated to furnish him with and preserve for him an induced refraction, and even if a confused and varied one, yet perceptible, and that in spite of the faults of individual apparatus and various losses due to auto-induction and to reciprocal inductions.

We pass from the refraction of the good to, successively, the refractions of the just, the logic and the true, which latter is accessible in its pure form to very few inducts. Most men must be satisfied with the second hand refraction derived from social induction of the neural constructions most frequently based on central refractions.

It would, however, be a mistake and contrary to our plan to conclude from our rapid enumeration that induced neuricity consists solely of the seven (more or less) bundles or rays into which we have arbitrarily divided them.

Neurality, as a manifestation of that which is (I am that I am) is one and undefined and is above and beyond the utmost refractions which we can perceive.

Just as our sense organ only perceives a sector of vibrations, and that a very limited one, which constitutes light, which in its turn is refracted in seven colours (more or less according to the manner in which they are contemplated), so our receptive apparatus perceives a very limited sector of neural vibrations, which admit of intermediate passages or graduations and of absolutely innumerable mutual combinations.

(26) It is impossible to represent graphically, in a sketch or diagram, the play of the refractions and of their possible combinations, just as we can represent the play of the corresponding human activities.

Let us suppose the seven refractions distributed in a semi-circle, the infra-pleasant being at the extreme left of the arc and then successively the seven refractions, from the pleasant to the true, ending at the other extremity in the ultra-true.

Following the plan of this section, we can remember the play of

the refractions and their combinations, as well as the play of the corresponding human activities by representing them diagrammatically on the semi-circle. This diagram represents the refractive capacities of each individual. If this diagram is correct it will define the individual better than any curriculum vitae, and description or biography. The study of the "refractional" diagram can be applied for instance to the best-known personalities of the past or present time and a comparison of different diagrams can give surprising analogies, can explain many complex and contradictory attitudes, can elucidate many obscure points in characters.

And then we can draw a diagram corresponding to an ideally balanced ethical-religious-social character.

We shall see by what follows that these refractional diagrams are not simply an indicative and mnemonic means of noting, but that they correspond to an intimate reality, connected with the phenomenon of induction.

Refraction is not without us but in us, in our structure; the sensation of colour is in ourselves, not in the object, so that we are not certain, for instance, that what is red for us is red also for someone else.

What we are sure of is that there is a red which, apart from the manner of perceiving it, exists, and is in constant relation to other fundamental colours.

Just so we are not sure that our ideas of the pleasant, the good, the true, are exactly like those of other individuals; but what we are sure of is that apart from all deformations, all these ideas exist and that their relations to one another are constant.

Without this existence and permanence of the identity of their relations—at least in the field of human life—we would be in complete chaos and would find it absolutely impossible to understand one another, approximately. But there is this possibility, even if it is only approximate, which proves that whatever our induction may be like, similar to the induction of others or more or less deformed, the original relations between the various inductions remain constant, at least in so far as applies to human beings.

Consequently if it is true that what seems good to one does not seem so to another, what appears beautiful to one is not so for another and so on, yet chaos is not to be feared, since the differences, although considerable, are not substantial: all that is in question is better or worse induced neutrality, with greater or lesser distortions, but always and solely the question is one of induced neutrality. The conception of the just may, for instance, vary in detail and in contour, but it has and always will have the same foundation from the wildest to the most civilized man, in the most diverse races, in the most remote times and places, and one may say the same of the conception of the good, the beautiful, the harmonious, etc.

Man, because of his imperfect neural structure, and the play of the inductions which act upon him, cannot attain to the pleasant, the harmonious, the beautiful, the good, the logic or the true, except

in an imperfect manner; but he retains the definite sensation that pleasure, harmony, goodness, justice, logic and truth exist absolutely. Just as on a misty day we may get the appearance of a changed red, green and yellow, but we have no right on that account to cast doubt upon the existence of a real red, green, yellow, etc. Even persons born blind have an obscured sense, but a lively one, of the colours and those who at a certain age recover their sight are not astonished to find the world such as it is: the red red, the green green, the yellow yellow, for, although they did not see them, they had a certain confused intuition of these colours.

We approximate, then, in certain respects, to the Platonic and neo-platonic conception which admitted of super-celestial bodies—but with this fundamental difference that we say: pleasure, harmony, beauty, logic and truth in the absolute sense, are not of this world, because we live in the induced and not in the inductive.

We live in the induced: and therefore pleasure, harmony, beauty, goodness, justice, logic and truth are not absolute for us. Our pleasure, our harmony, our beauty, our everything, is within the play of mutual induction which, in most men gets the upper hand. Everything is thus associated to a life of relations to other beings and to continual variations. Thus in space and time no induction ever identically repeats itself, but it has always the same foundation and is instinct with and unveils always and everywhere the mighty presence of the divine inductive tide.

CHAPTER IX INDIVIDUAL NEURAL PLANS

Appendix : The Case of Nietzsche.

(27) ACCORDING to the principle of induction, the induced human subject situated in the field of action of a neural force, universal or particular, gives rise to a neuro-motive force which, in its turn, gives birth to an induced neural current.

The induced neurality becomes gradually degraded and separated from the inductive neurality for several reasons which have been already explained, and which we summarize here:

(i) The structural characteristics of the induced apparatus. We have here a constant datum, from which we cannot escape unless we find instruments or methods which will alter these characteristics.

(ii) The individual defects of the structure, that is to say the more strictly physical defects and failings, visible and invisible, inherent in the greater or lesser fluidity of the whole neuro-mental mass and the dianeuric envelope.

(iii) The reaction of the induced person and relative auto-induction, its losses resulting from parasitic currents, distortions, etc.

(iv) Reciprocal induction with other induced forces, simple and complex.

One must not, therefore, be astonished if, finally, after so many deviations, certain inducts remind but very slightly of the Divine! Something, however, remains, if no more than a gleam, chiefly in the refractions of the harmonious and the pleasant, which are generally the most felt by the ordinary man. We can even admit that they are also present in some animals, of course in a limited manner, differing according to the animal. It may also be admitted that some animals have a sector of perception extending beyond the pleasant, into the zones from which man is excluded. The ants, for instance, in view of the fact that their life in common is based on the voluptuous, must have a perception of the super-pleasant which escapes us.

Passing through all the deviations and losses caused by the four kinds of causes named above, the seven fundamental refractions of neutrality reach the human consciousness distorted and falsified.

Limiting ourselves, for the moment to the fundamental and axiomatic refraction of the good, and to the study of the manner by which it reaches the consciousness and the different deviations, interferences and reactions to which it is subjected both exteriorly and interiorly, we shall try to *fix the fundamental points of a moral objective, which is self-affirmative and has its raison d'être in the inducing Universe which surrounds us and in human nature.*

In order to make our study more efficacious we will set down in advance some considerations, absurd, perhaps, but necessary.

We have seen in Chapter VIII that it is possible to construct for each individual a neural curve or diagram which we will suppose to be possible in exact correspondence with the characteristics of the individual in question. In order to obtain this more easily we will make the semi-circle of the neural diagram turn on its vertical axis, thus obtaining a hemisphere; the arc corresponding to the refraction of the good will become a spherical cone and the curve or neural diagram of the individual subject to this refraction may be replaced by a more or less irregular plane surface, continuous or with risings and depressions.

If we suppose that we have been able to construct our surface quite correctly, it will correspond to the moral characteristics of the individual. The more elevated it is as a whole, the more its characteristics will correspond to the common conception of the good. The lower it is, the more its characteristics will correspond to the idea of wickedness.

The number of possible surfaces is infinite, and corresponds to the infinite possibilities of the individual moral constitution. In order to be able to go on with this study without meeting with excessive complications, we will replace the conception of the surface by that of a plane, which we will define as the plane of compensation of the surface, or the plane by which the total volume placed between this plane and the surface, in the upper part, is equal to the total volume placed in the lower part, but still between this plane and the surface.

The same system could obviously be applied to other refractions, but since we are concerned now solely with the refraction of the good,

we shall get here the moral constitution of the individual well characterized by the position of the plan. The more elevated it is the better will be the constitution of the individual, the less elevated it is the worse it will be and vice versa.

But let us ask: is this neural plane but a pictured mnemonic scheme, or does it correspond to something real existing in the consciousness? To the great astonishment of some people we will state that it is actually something real.

We have seen in Par. 14 that as soon as the circuit of an action is closed (and thought is an action) a reaction of the induct develops, a reaction which gives rise to auto-induction, to parasitic currents, to distortions, etc. This reaction of the induct is manifested by a diminution of the active induced flux, and consequently we can imagine the neuro-mental mass as divided into two parts (i.e., not materially): one in which one can consider the induced flux as acting as a whole, the other in which the reaction of the induct has surpassed and annihilated the effects of the induced flux: the surface separated into these two parts and, thence, the plane of compensation (compensatory plane) correspond to the neural plane represented by the diagram.

One remark more:

Upper and lower, the right side and the reverse are a conception relating to man. Our eye sees the world upside down, but, as we are used to it it seems all right to us. It is in connection with the common conception which makes good equal to high and bad equal to low that we speak of higher planes or lower planes in accordance as the moral constitution is good or bad.

Now when referring to the plane of separation between the pure induced flux and the reaction of the induct, we should reverse: if we still attach to the conception of the low the most distant idea of the refraction of the good, the plane corresponding to the highest nature is the plane in the lowest situation, i.e., the plane above which a great quantity of induced flux is in action.

Now that, in order to avoid misunderstanding, we have cleared up this point, we shall not depart from this common conception of "high plane" equivalent to good, the "low plane" to wicked. We have already remarked in Chapter III that there exists in the induct an autoregulative power, as the result of which this plane can be displaced within certain limits. Thus there is a lower limit and a higher limit which depend upon the individual neural constitution and beyond which it is very difficult to pass.

The lower limit which separates good from evil in the individual soul and which we call the individual neural plane of limitation, cannot, generally speaking, be overpassed and only is overpassed when, exceptionally, the negative effects of induction deriving from other inducts tend to increase the negative effects of auto-induction. Even among persons with a very low moral constitution we still find a neural plane of limitation corresponding to the characteristics of their neural constitution.

For instance, we have individuals who, in their inner selves, think

that they have a right to steal; whilst they draw back in horror at an assassination; others who certainly would not kill treacherously are ready for rapine, and others who are capable of killing treacherously would not kill a friend.

Nietzsche even, a very characteristic case of an individual plane purposely kept very low, allowed all except treachery towards a friend. Why this exclusion?

If really, in order to attain some benefit reputed to be higher, it is permissible to give oneself over to swindling, assassination, lust, why should we stop at treachery towards a friend? If this good thing to be attained requires this treachery, how, in accordance with these logical ideas expressed by Nietzsche, ideas which, however, were not his, could we refuse to commit it?

It must be recognized that the individual neural plane of Nietzsche, however low he voluntarily kept it, could not pass a certain limit which was quite individualized, and that just the limit of treachery to a friend.

A bandit, capable of killing and stealing, gets indignant at another who has turned informer, because in the scale of evil this crime is beyond his neural plane of limitation. His indignation is as sincere as that of an honest man towards him because he has stolen and assassinated.

If circumstance bring about, in spite of all, a breaking of the second plane, the moral collapse of the individual follows inevitably, with suicide or madness as almost invariable consequences.

(28) Nietzsche is a typical example of collapse provoked by having forced his own neural plane beyond its lower limit. The other, the one who is well known, was not the real Nietzsche but a fictitious, artificial Nietzsche.

Nietzsche was a man with a tender heart, and a sensitive, delicate soul who suffered at all miseries, all violence. He felt himself instinctively in sympathy with the oppressed. He wanted to be strong, to idealize force, and he began by doing violence to himself by directing all his energies against his naturally very high neural plane, in order to constrain it to come down to a lower level. All this took place only theoretically, for it does not seem that his absence of prejudice and his amorality were ever put into practice. On the contrary, everyone admits that he had a very kind heart with gentle and compassionate sentiments, inclined since his childhood to understand and to share the "pain of the world." In a word, he was rather different from what one would imagine from reading his works. Even his face was not that of a dominator but of a dreamer.

In order to understand him well we must study him in the period immediately preceding the catastrophe. It was only in this period that he attained to his maximum vital power, that he reached the height of his anti-moral and anti-Christian exaltation of Strength and Evil as noble things, that he attained to the maximum of pathetic exasperation in his assertions. Why? What did he want to prove?

A person who is really strong, one who is naturally wicked, feels no need to exalt his strength, his wickedness. He is what he is, quite as quietly and simply as a lion is a lion, a bear a bear, a wolf a wolf or a lamb a lamb. Who, then, did he want to persuade? Himself. Who did he want to combat? His natural world of goodness and pity, his melancholy sensitiveness, his human weakness.

And the more that manifested itself in his inner self, the more he excited himself into a combative exaggeration by a fictitious self.

Without any doubt syphilitic infection opened the doors to progressive paralysis and madness. It was the determining influence in his organism of a weak point which, naturally, was the first to yield when the internal pressure became intolerable.

But we must not, as is usually done, confuse the cause with the concomitant circumstances. The cause of the explosion is pressure which goes beyond the limits of safety and of rupture. The concomitant circumstances are the weak points through which the explosion takes place.

We may now ask ourselves: if this weak point had not existed would the explosion have taken place all the same or would the *physical organism have resisted the pressure and would it all have been limited to a formidable internal shock?* We have no hesitation in replying that the collapse would have taken place just the same, probably taking the form of suicide, as in the case of Weininger which, in several respects, is similar.

The last months before the explosion were characterized in him by feverish activity. It is, too, the period when he produced his best from the point of view of art, style, strength of thought, without any trace of incoherence or illogicality or at any rate of decline or of deterioration of his faculties as compared with his previous works.

Very far from finding a slow and gradual obscuring, we see his genius at its zenith, in its most brilliant form and maintaining itself up to the moment of catastrophe. We are the spectators of what was really a formidable struggle between all the power of his genius directed solely to one end, and a supreme natural force against which his efforts could not but fail, the reaction of which was necessarily the more powerful because it had been more restrained.

What was that force?

It was the tension of his individual neural plane which had been violently compressed and compelled.

This tension must at certain moments have become frightful, it must have given rise to formidable combats, to the shock of two worlds within his soul, to the most terrible and bloody microcosmic revolution which can be imagined.

It was a very trifling matter, but a revealing one, which finally displaced his unstable equilibrium, maintained up to them at the risk of tremendous internal pressure. On the 3rd of January 1889 at Turin he saw a carter roughly whipping a horse.

The strong man among strong men, the advocate of brutality and oppression, could not withstand that sight. His emotion was so

great that he fainted, and thenceforward madness, which did not leave him until his death eleven years later, took possession of him.

His body was, without any doubt, prepared for madness, his neural structure was distorted, but the collapse took place due to the sudden return to equilibrium of his neural plane, constrained too long and too hard.

Nietzsche's madness is a classic tragedy, it is the shock of will against destiny, of his impossible struggle against his own neural constitution.

It proves that one may not with impunity violate one's own neural plane of limitation, that it is necessary to keep to it, that it is it which is the real, the principal characteristic of our personality. If, of course, it is high, it should be our guide and, in consequence, the limit of our actions. If, unfortunately, it is low, we should try all we can to raise it as far as possible, making use of the valuable help of those immense forces of induction put at our disposal by society, namely religion, law, custom, opinion, example and tradition, supported by suggestion, and finally by constraint for those who openly oppose the free exercise of all these forces on the social plane.

CHAPTER X

THE TWO SOURCES OF SOCIAL INDUCTION

(29) We have considered up to now only the three orders of cause which lead to the inevitable degradation of induced neural force and make it differ more and more from what it ought to be. These are:

(i) The structural characteristics of the human neural structure in general, which are what they are, and which, for the time being at least, we cannot modify.

(ii) Our physical and psycho-physiological defects visible and invisible, which we can, within certain limits, eliminate or reduce by physical, psychical, or psychoanalytic treatments, spiritual exercises, etc.

(iii) The reaction of the induct, the effects of which it is possible to remedy, or at least reduce in two ways: by excluding action and by absorbing oneself in contemplation or ecstasy—for it is a characteristic of every induct that while the circuit has not been closed no reaction takes place—or by making use of our autoregulative power which is capable of reducing the losses caused by auto-induction to a minimum.

We have up to now kept in the background a fourth order of cause, i.e., the effects of other induced forces either individual or complex, which are present in the field. But this does not mean that this fourth order of cause is of less importance. It is because, on the contrary, it deserves a detailed examination.

Except in the special cases of hermits living in a world which is made up of their one ego and God alone, of ascetics, mystics, thinkers and, in general, higher men, even when they are men of action, who seem to live two lives, the one in contact with the rest of the world, and the other reserved for their contacts with God—most men live in a world of relation, and constitute *a variable in a world of variables which influence one another mutually*.

We get thus a variation of the individual induced force, deriving from social action; this induction is in most cases absolutely preponderant, so much so as to make some thinkers, and even deep thinkers, believe that we should seek in it the real source or rather the two real sources of the moral sense.

How does social induction manifest itself?

In two forms: one which derives from the complex social neural forces, such as religion, custom, law, opinion, etc., the other deriving from the individual neural forces and of course with the more efficacy the more powerful these forces are.

We shall see in the chapter concerning neural construction (XIII) the manner in which the complex social neural forces are formed and behave. Let it suffice for the moment to state that in virtue of the principle of induction the neural social forces, which consist almost altogether of an accumulation of induced neural force, are as real as the induced individual neural forces—just like the electricity accumulated in a condenser, the existence of which we are obliged to believe in because of its effects although it is invisible. Having once admitted the existence of these complex forces, we may say that there are two sources or origins of social induction, that is:

The induction which is derived from these complex forces;

The induction which is derived from individual forces.

Let us note here a certain affinity between our theory and Bergson's thought in accordance with which the sources of moral sense are: social pressure and the individual charm which emanates from front rank human beings. This Bergson calls the appeal of the *héro*. There is, however, the substantial difference that Bergson considers these two sources to be the original sources of moral life, whilst according to our principle of induction, they are only the sources of social induction, which, in its turn, though very important, is only one of the modifying causes of induced neurality.

(30) Not everyone has the capacity or the possibility of having an individual meeting with the Divine, not all are moral geniuses, or geniuses in the sphere of the pleasurable—or music, art, law, mathematics, or again in philosophy.

For all who are not geniuses, social induction in its double form is necessary and efficacious, for it shows each human being his real self, it enables each one to increase his own induced force, which is the aim of all the world, or at any rate ought to be, for enjoyment is bound up with this increase, whilst despair accompanies its diminution. If really Bergson's social pressure is like a tissue, which we get into and

are held prisoners, what is the force which impels us to get into this tissue, if it is not something already existing in our inner selves.

In what way would this tissue act upon children, simple folk, ignorant people, shepherds who live isolated on the mountain or on the steppes, who are not reached by the effects of social pressure or are only very vaguely touched by it and who ignore completely not only the appeal but even the existence of the moral hero? And it is not permissible to deny that there is a moral life in children, in the simple, in the ignorant, because it is more lively and more definite than in adults and cultivated and civilized minds, in which a thousand compromises, a thousand adaptations, a thousand conventional or business reasons which attenuate it, confuse it and obscure it. That same sentiment of the just which is distinct and precise in the child of four years old is transformed in the same child after he has become an adult, into something nebulous, confused, elastic, which he manages and turns according to his interest or passion.

Ordinary social pressure acting independently of any disposition or interior aptitude would make the moral life consist in the observance of certain rules—some of which are reduced to pure forms devoid of significance—which have nothing to do with the inner moral exigence of the individual.

The charm of strong individualities is undiscussed and undiscussable, but why should this charm have a moral content which is fundamentally unique in the whole world, in all time and in every race? Why should not this charm which is so universal proceed from celebrated criminals, from renowned brigand chiefs? Why have not these latter been able to create a moral sense of evil?

Why is it that perverted writers, sometimes much more artistic than the Gospel, have not been able to make a second gospel? Why are the moral systems all fundamentally the same, and why has it not been possible to create hundreds of thousands of moral systems, as many of them as there are men, illustrious or obscure, who are able to emit a certain charm from their personality?

The influence of good men has always been effective because it has found something answering to it in some pre-existent factor of the human soul, and it has been the more efficacious because it has revealed the existence of something which, without it, would probably have passed unperceived.

Hence the joy, the intoxication felt when we feel the development within ourselves of a force we had despaired of obtaining. The individual induction proceeding from someone dear to us or from a historical personage acts, in such a case, powerfully on the person subject to induction, it increases the induced neural force. Hence come gratitude, devotion, idolatry of superior men, and of all the forces they emit, which constitute the central nucleus of a group of neural forces developing gradually, their induction having a progressively greater effect upon the individuals subject to it.

The effect of the induction of bad forces is felt too, but it tends to reduce our induced neural force and not to increase it. That is why

our induced nervous system reacts. Even when the effect of a bad social force, complex (an immoral atmosphere), or individual (the example of some person near us) brings our neural plane down to a lower level, it is with difficulty that it succeeds in making it pass its plane-limit, and if it did succeed it would as a rule lead to suicide or madness. This is the explanation of the miserable end and the despair of so many failures, living in vicious surroundings, who have no possibility of reaching the better sources of neural energy which they need in order to be able to raise their neural plane a little.

The "imitatio Socrates"—says Bergson "spread through the whole ancient world," the "imitation of Christ" spread through all the Middle Ages and has extended to the modern world. The imitation of Buddha, we would add, has spread all through the Oriental world.

If all that was in question was an individual charm, having no correspondence with anything interior and really divine, coming from on high, why should there not be, for instance, the "imitation of Nero?"

Who more than Nero shone in his pomp, power and glory, who more than he was likely to impress, to suggest, to hypnotize crowds? What were, beside him, the modest midwife's son, the obscure carpenter's son, both of whom died so miserably, or even the prince banished from his lands and wandering across India?

The personal suggestion of the Neros and, in general, of brigand chiefs, of criminals, is powerful, but it is contrary to the forces of divine induction which, flowing down on those subject to it, reaches them in the form of an induced force which varies very much in volume, but is always present. Bad suggestions tend to combat these divine forces, and to edge them into a position where their equilibrium is unstable, but they themselves diminish as the natural equilibrium of the moral life is re-established. That is why all forces called evil have only a contingent, a transitory effect; they never become the foundation of an evil moral system, which is a contradiction in terms, a thing which does not exist. Thus it is not the personal charm in itself of exceptional personalities which constitutes a source of moral force, but this remarkable charm, which is very important, is one of the sources of social induction, and is the better able to act the more forces conformable to itself it finds in the individual.

When speaking of evil moral systems, we must not confuse certain moral systems improperly called so—which have their foundation in the refraction of pleasure—with an actual evil moral system. Certain irregular ways of life, certain kinds of misconduct in artists and poets have a real charm, because the latter, being more apt to feel the refractions of the harmonious and pleasant, find their natural affinity in them. Nietzsche's moral system of force and evil has thus its legitimate base in the refraction of the agreeable and "so long as it continues to be within the limits of this refraction" it, too, has a part in the divine.

But evil, real evil, is an anti-refraction which annihilates or reduces the positive flux. It answers to it only with pain and despair. The

moral life is not a painful duty; it is the joy of feeling the divine, a joy which, by degrees, increascs in us, a joy which is found again in other similar joys, in those joys which we experience when we come into contact with the six other refractions of the pleasant, the harmonious, the beautiful, the just, the logic, the true. We have, under different forms, one and the same joy, that of coming near to God, the only one for which it is worth while to be born, the joy in comparison with which all the poor human satisfactions are but vanities, empty of the spirit.

If this principle opened man's mind and entered into his heart, how different would the world appear to us! How much meanness, how much wickedness, how many abuses, vexations and injustices would disappear and would be considered as absolutely unreasonable and dangerous things, even more for those who commit them than for those who suffer by them!

The executioner would be more to be pitied than the victim. The person subjected to violence would be less to be pitied than the person who commits it, for the latter incurs spiritual ruin, by his alienation, perhaps irreparable, from God, whilst for the other, unless there is a reaction of hate and spite on his side, nothing happens but an accident, comparable to an illness or an earthquake.

Pity should therefore be reserved for the bad and the violent, who, without knowing it, alienates himself from God, that is, from the sole good. We should no more talk about wickedness, but of unconsciousness, for, as a matter of fact, evil does not exist. It is but a reaction, a distortion of the induced force which comes to us from God and identifies itself with the good, refracting itself in the seven forms of the Pleasant, the Harmonious, the Beautiful, the Good, the Just, the Logic and the True, to which correspond the distortions, i.e., Pain, Dissonance, Ugliness, Wickedness, Injustice, Illogicality, Falsity. Men would thus perceive that what is above them is perfect, good, sublime, and while they seek to-day at hazard a happiness which it is impossible to attain, just because they seek it in the material world, where it slips from their hands like a mirage, they would then tend to conduce by their efforts to the individual and social perfectioning of their induction, the mending of its faults, the correction of its distortions, and they would not await from outside, from other people and from the material world, a happiness which one can only have within oneself, within the limits set for each one by God.

CHAPTER XI

THE MEAN PLANE

(31) THE individual neural plane is the plane conceived as existing between the positive induced flux and the negative induced flux produced by the reaction of the induct. The individual neural plane of limitation is the lowest limit, to which the individual plane may

be brought—the least amount of positive induced flux compatible with a given neural structure.

The mean plane is, on the contrary, the plane corresponding to the mean morality resulting on the one hand from complex social forces, on the other from the individual inducts among whom, in the greatest measure, are those characterized by a greater individual force, such as moral heroes, saints, illustrious persons and so on.

The mean plane thus represents the social induction derived from the two sources: the collective source and the individual force.

This plane which appears as a symbol in the schematic and geometrical form to which we have necessarily reduced it for the sake of representing it, is not an imaginary creation, but it corresponds, like the individual plane, to something real, i.e., to the result of the forces of social induction, which act, with a greater or less efficacy according to the constitution of the induct on everything within their field.

The mean plane will exercise, therefore, as the case may be, a greater or a less force of attraction on the individual plane. When its position is superior, it will tend to raise the individual plane and this will be accompanied by satisfaction and joy; when its position is inferior it will tend to lower it and this action will be accompanied by depression and despair.

If we take the hypothesis that the mean plane is inferior to the individual plane of limitation too, the resistance and the reaction of the induct will be violent enough to reduce or annihilate the attractive effect of the mean plane, or to bring the individual to a real and complete collapse.

The manner in which the average plane acts on the individual plane varies in accordance with the induct, having an infinite number of gradations and constituting one more of the individual characteristics of the induct, which depend on a great many things.

The same elements which combine to vary direct induction combine, in substance, to vary social induction, they interfere with one another, they interlace in a complex manner, difficult to determine.

We emphasize here the complexity of these interferences and inter-lacements and we draw attention to it, to prove yet once more, if that is necessary, that the induced force is an essentially variable being in a *world of other variable beings*: these forces influence each other and these influences vary too, continually, according to the variations of the being.

The action of the mean plane on the individual plane is thus essentially variable, having variations as between one individual and another and in the same individual.

Considering the different modes of manifestation of the action of the mean plane, we can distinguish four principal groups of inducts, which do not constitute four separate categories but rather four types: from each of these types we pass to the others by innumerable intermediary gradations.

The first group consists of superior men, whose individual plane

is much superior to the mean plane, and upon whom the action of the mean plane is but little felt.

The second is that of average men, forming the mass of humanity, whose individual plane approximates to the mean plane, to which it is generally inferior and to which it is strongly attracted. The individual plane finally, in such persons, identifies itself completely or almost completely with the mean plane and their morality depends almost exclusively upon the two sources of social induction.

There is another small group, namely of those who, though they have an individual plane which is not very far from the mean plane, do not feel its attraction much, or even don't feel it at all.

For these it is as if the mean neural plane did not exist.

It is to this group that original and paradoxical people belong, false idealogists, the founders or members of odd sects and, in general, the refractory and misunderstood and those who do not understand any kind of movement.

There is, finally, the group of those who have a very low individual plane, and do not feel, or feel very little, the action of the mean plane. These form the group of amoral and criminal persons. The greatest positive distance from the mean plane is found in the Saints. The greatest negative distance is found in the criminals.

The positive zone between the mean plane and the individual plane, with the individual plane above is the geometric place for apostolates, movements actuated by beneficial ideas, examples of charity, love and edification. The negative zone between the mean plane and the individual plane which is situated below the mean plane is the geometric plane for hysteria, cases of conscience, scruples and remorse.

As there are two neural planes it is comprehensible that there are two kinds of remorse: that which results from having overpassed the average plane and that which results from having overpassed the individual plane. The former is often the prelude to detachment, to annulment of the attraction to the mean plane; the latter is real remorse. If we descend again below the individual plane to the plane of limitation, we get, rather, a remorse, a hindrance by conscience, which absolutely forbids doing an act which would be beyond the individual plane of limitation. (Example: the "Unnamed's" rebellion of conscience concerning the rape of Lucy in Manzoni's novel.)

If circumstance lead, in spite of all, to overpassing, or, more, to try to overpass the plane-limit, we get the collapse of the individual, suicide, folly and self-punishment. There are numerous examples in the lives of repentant criminals who have sometimes been afterwards saints, who have submitted voluntarily and joyfully to the extremest self-torture and mortifications.

CHAPTER XII

THE ELEMENTS OF SOCIAL INDUCTION

(I)

Individual Inductions

(32) OUR mean plane is a symbol, but it corresponds to a reality, namely to the action of the forces of social induction or the resultants of these forces, for where there are forces facing one another in the same field there will of course also be the resultants of these forces.

A mean plane is naturally constituted by the mere combination of the forces in action, and it is subject, due to the variation of these forces, to oscillations and displacements. The fact that every day some people die and others are born brings about a continual displacement of forces, and then there are the inductions between people, the continual variations in direction and value of the individual forces.

In the conduct of the crowd we have a very commonplace but a very clear example of the case with which the mean plane is displaced.

The composition of the forces in a crowd is essentially unstable and variable, so that these forces pass very easily from one extreme to the other. We know that the crowd is childish, wild, impulsive, with simple ideas, inaccessible to reasoning. It feels nothing but ideas, or rather the pictures and statements presented to it, which for the moment agree with the resultant of its inductions at the moment. In consequence there is in the crowd no logic, no tolerance, no moderation. A strongly neural element which manages to make its neurality accord with the crowd's resultant, may draw it into any enthusiasm, or any crime, to the highest and to the lowest actions.

In parades, ceremonies, reviews, the resultant of neurality is usually more stable. The resultant is, in this case, inclined most frequently towards the refractions of pleasure, harmony and their combinations, such as, for instance, dancing. The resultant has a powerful action even on those who have but a slight tendency towards these refractions, and thus we see, to our great surprise, austere old men beginning to dance, getting exalted and excited by the effects of dancing and then astonishing themselves—once they have got under its influence—by an exaltation which they no longer feel, because in the natural course they are more inclined towards "logic" and "truth" than towards "the pleasant" and "the harmonious."

The more or less rapid composition of the induced forces is clearly manifested too in groups of people: an attentive observer will easily remark the variants of the neural collective; each time someone comes to join a group or leaves it, after a shorter or longer time, the group is recomposed, and has a different neural resultant. The new comer

will not feel at his ease until the resultant is recomposed. The entry of a person who is rich in dia-neural matter will sometimes slacken and hinder the composition; this person will feel embarrassed and his presence will also embarrass the other members of the group.

The entry of a person whose neural force is apt to combine quickly with the rest of the group, gives everyone an impression of pleasure, of sympathy. The sympathy corresponds, thus, to the facility of combination of an individual neural force with the others. It depends upon the isolation and the characteristics of the neural force, i.e., on its point of application, its direction and its volume.

Whilst the isolation is an absolute factor, which brings it about that the greater is the dia-neural isolation of an individual, the lesser is the liking which he evokes, the characteristics of the individual neural force have a value which changes in relation to those of the other individuals with whom they come into contact. In consequence, a person who may be very nice to some people is anti-pathetic to others. What is very agreeable in some surroundings is scarcely tolerated in others.

The combination of the forces and their relative resultants have, in social groups, a greater stability. As it were, powerful stabilizing elements intervene, namely the two sources of induction which we have already indicated: the source of induction found in moral heroes, and the source which derives from social forces and neural constructions.

Neither of these two kinds of induction can, however, abstract themselves from the occasional induction of the common men with whom they come into contact; they interlace, inducing each other reciprocally. The world is such a tangle of inductions, actions and reciprocal actions that one can never disentangle it more than approximately, and then only by supposing the existence of a number of immobile beings, who are also, for a certain time at least, invariable.

A striking example of the reducing power of the mass of ordinary men is seen in the degrading action which they exert on the good work of saints, apostles and initiators.

These peaks of humanity assemble at first about them a small group of spirits whose individual planes are very high. Afterwards as their apostolate expands, they come into contact with groups with lower and lower planes, until a mean neural plane is formed which of necessity cannot be far off the prior one, for it is the resultant of various neural forces, among which, unfortunately, those of the mass, which are what they are, preponderate.

We get another, very clear picture, in the life of religious orders, founded most frequently by a Saint, which maintain themselves at a high level of sanctity for some generations, but gradually lower it until it reaches a common average or even goes down lower than the average plane, unless, as periodically happens, other Saints or reformers appear who, going back to the origins, raise the character of the order. We get the effect of the alternance of two forces, the one purely spiritual, divine, tending to rise higher, the other material, human, heavy.

This phenomenon is not limited but universal and appears in all societies, explaining their continual flux and reflux, and the alternating succession of the same phases of hope, improvement, arrest, decadence, dissolution and resurrection, as the result of which the history of humanity looks like a circle, always coming back to origins and forms of the past, in spite of multiple, and often useless experiences.

The fact which, at first sight, seems inexplicable, is that in spite of so many movements of ideas, in spite of the continual birth of new idealisms, in spite of disposition and aspiration—which is more frequently felt by persons who have a high neural plane, but which one can find in lesser measure in the mass of men—of humanity, to raise it and improve it, moral progress is so small.

The progress is small, but it is some and that is what counts.

To what do we owe the existence of even an infinitely small fraction? To what do we owe the good disposition, towards higher things and towards improvement, what is the vital force which maintains itself better and more obstinately in spite of all the disillusion, in spite of a material analysis of the facts which would justify the greatest pessimism.

We owe it to the inductive force which, in spite of deviations, distortions, acts continually, showing the good, the sublime, the real road for humanity.

Will the eternal action of the inductive fluid always meet with the blindness of men, their will to falsify it, to disperse it?

Do we perceive some time or other those many useless efforts, so much time lost, will we at last turn towards the one effort worthy of the name of effort, the effort to improve our individuality and to put it into a condition in which it is able to receive a greater amount of positive induced force?

If we reflect on the sublime essence of which our individuality should be the seat, the temple, no effort would seem to be sufficient to make it worthy to receive so great a Guest. But we must know that the Guest exists and that he is present, even when we misunderstand him, even when we are unworthy of him.

CHAPTER XIII

THE ELEMENTS OF SOCIAL INDUCTION

(II)

Neural Constructions

(33) THE most important stabilizing element in the average plane is formed by *neural constructions*, that is, by assemblies of social neural forces, the induction of which is so powerful and acts so strongly on individual inducts that in many cases it is confused with the induction which derives directly from the universal inductive flux.

These neural forces are at the same time stabilizing elements of the average plane and an indirect means of action of the universal induction force on weaker inducts, whose structure is not fit to receive the induced neural force directly.

Their double function is manifested with a double aspect:

(i) *The accumulation and condensation of reserve energy*—which takes place when the mean plane, as the result of losses due to reciprocal induction or contrasting induction, tends to become lower. (ii) *Direct induction* exercised on individual inducts, through their great and approximate masses of accumulated energy.

As the neural constructions usually have to do with several refractions, we will consider for a moment what happens in the other refractions which we have up to the present briefly reviewed.

We have actually limited our examinations to the fundamental refraction of the good, i.e., to neural ethics.

But all that we have said may, with slight variations, refer to the other refractions, in each of which we may recognize an individual plane, a plane of limitation and a mean plane.

To each refraction there correspond the appropriate neural constructions. It is thus that to the refraction of the good there correspond the various fixed moral systems; to that of the beautiful the various artistic schools; to that of the just the various legal systems; to that of logic and truth the various schools and tendencies, scientific and philosophical.

The most important neural constructions do not relate to one single refraction, but to groups of refractions, and sometimes to a whole scale of refractions, one of them, however, preponderating.

Spiritual religion, for instance, is based, preponderatingly, on the refraction of the good, and extends its action on the one hand towards the beautiful and the harmonious and on the other towards the just and the logic, leaving almost on one side the extreme refractions of the pleasant and the true. I will say more: In the interior oscillations inherent in all fluidic constructions, there is manifest, from time to time, a kind of fury which is more violently directed against the extreme refractions, i.e., the refractions of the pleasant and the harmonious, and sometimes even against the beautiful, which is considered as the work of the devil. Sometimes, on the contrary, a wider comprehension of the beautiful, the harmonious and the pleasant includes them, too, in the work of God. We notice, too, the same oscillations in the domain of the true. Science and philosophy are in some periods considered to be a work of the devil, or are at most admitted as humble servants of theology, whilst in others a great breadth of spirit prevails. God has given man reason so that he may make use of it and its use is, consequently, legitimate and may even be a duty.

The ancient natural religions, which tended towards refractions of the pleasant, the harmonious, the beautiful, and which spread their ramifications as far as the just, had no conflicts between reason and faith. Philosophy, which worked in a field which had nothing to do with religion, was actually free. It only had to act prudently

when it came across another neural construction. The State, which had to take account of popular beliefs, not as refractions of the true, but because they were the base of the neural religious construction of the time, on which the State was based and with which it was so mixed up that one could rightly fear that its stability might be compromised by the disintegration or destruction of this religious construction.

Apart from that, there was no condemnation of thought as thought, no limitation to the liberty of the philosopher, no condemnation and no accusation of heresy or heterodoxy, an almost complete lack of theological-philosophical discussions, which are characteristic of all the spiritual religions. The latter, having attained to the refraction of the true, have an induced truth, which they confuse with absolute "truth." They will not, of course, admit that another neural construction or independent inducts may have "true" inducts different from theirs and not less "true" than theirs.

Such an illusion is not limited to the religious neural constructions, but is common to all neural constructions, including the loftiest, whether they be artistic, scientific or philosophic. It is not admissible, for those who form part of it, i.e., who are strongly subject to the induction, that others should have their own truth, a truth as sacrosanctly true as theirs, though with a different aspect. Reciprocal incomprehension is the cause of religious fighting, philosophic and artistic polemics, etc., which are the more rough because the quarrellers are in the most *perfect good faith* on both sides. The struggles are of course accentuated when the neural edifice, through evolution in the group which serves it as a base, begins to slip downhill, whilst another is in course of replacing it.

The effect of the induction of a neural construction is not only felt by the inducts which are within its field, but also by those in other, more distant fields, which think they are independent of its attraction. It is difficult, or perhaps impossible, to escape the neural constructions in the midst of which one lives. It is always said rightly that everyone is the son of his epoch and of his surroundings.

Hence the singularity and the domination of a group or a doctrinal or philosophical tendency at a certain epoch or in a certain country. This group or this tendency is imposed on all inducts, though it refracts itself differently, according to individual characteristics. Not one escapes from its influence, not even those who seem far off and contradictory. When, for various reasons, the preponderance of this orientation has passed, not only does nobody adhere to it any more but it no longer exists except in memory, under the form of and as the result of historical learning.

The effect of the induction of neural constructions is revealed still more powerfully in mystic ecstasies. These always take place within the orbit of the neural construction in which the mystics have grown up, or to which they have adhered. A Buddhist saint will see Buddha or the beatitude of Nirvana, a Hindu Brahma or one of his manifest-

ations, a Mohammedan the glory of Allah or the houris, and a Brahmin will never see the houris, or a Christian Buddha or Nirvana.

The case of Saint Paul is an exception which proves the rule. This Saint actually proves the mighty strength of the induction of the incipient neural construction and shows that his soul had been already prepared for it. What proves it is his fierceness in persecution. He must have wanted to stifle the germ which he felt developing in himself. One is, in fact, never so fierce as when one wants to conquer something which is in oneself. What finds no echo in ourselves does not interest us and leaves us absolutely indifferent.

(34) Even if we admit as an abstract possibility that some day all inducts—by means of successive perfecting processes or of methods or instruments which it is not possible to discover—are in a position to feel induction directly or without deviations—directly, without passing through the mediate induction of the neural constructions, it cannot be denied that these latter constitute to-day and up to the time when that comes to pass, a necessity of social life. They are more than a necessity, they constitute a reality, they are effective entities like accumulated electricity in a condenser, which is real though invisible.

The neural construction which is the most important and most necessary is the State.

The State is not a body of stiff laws arranged in a scheme, still less is it a policeman whose duty is to regulate the circulation of other neural entities, individual or complex. The State is a neural entity itself, a living organism made of living matter which can come into being, amplify itself, develop itself, and even decline and die. The importance of a State does not depend much on its extent or in general on material factors. These latter can at most constitute a base for its more or less easy development, but what is most important for it is the living force which it possesses or which it is susceptible of assembling within itself.

It is thus that Rome, a handful of men, was able to absorb the world, whilst a vast empire like Persia crumbled at the first shock from a few thousand Macedonians, because it lacked living force. It stood up like an empty mould. It follows that though the base of a powerful state may be the Nation, its strength consists in the reality, in the universality by means of which it can reverse and absorb other forces into itself. Rome could, by reason of its universal character, make all the neural forces deriving from various peoples with which it successively came into contact, converge in itself, and it could draw profit from that. It brought them into a synthesis which is the greatest expression of human greatness and power that has been seen through the centuries.

A state, like any other organization of civil life, from a simple estate up to great industrial organizations, may be severe, but it must be just. If it is just it will be accepted and even strengthened by the spontaneous adhesion of various individual inducts, who find in it

a revelation of the induced force akin to the refraction of justice within themselves, just as they find in the religious neural construction the revelation of their induced interior force connected with the refraction of goodness, and in its artistic neural constructions with the revelation of the beautiful.

If the neural constructions are living organisms they can, like all living organisms, be subject to degeneration and to death.

We see, for instance, that religion may become bigotry, superstition, idolatry; that a constituted moral code may become rigorism, formalism, hypocrisy; that law may become trickery, swindling, deceit; that the State may become an abuse, a vexation, a tyranny. Neural construction, then, dies by shrivelling slowly or by deteriorating rapidly, or sometimes it crumbles at the first onset under the action of other neural constructions, formed within it or without, which originate generally in a force-thought from on high, through direct neural contact, from one or several Great Ones, one or several Heroes, having the universal inductive force.

It is superfluous to repeat that the term contact is wrong and that we use it here and elsewhere simply because it is the most expressive at our disposal. *It means for us an increase of the higher induction of pure intuition, which raises us to the knowledge of higher worlds, and puts us into contact with them, creating an induced force of a higher quality and power, a true charge of higher neutrality.*

Partial contact may give us a discontinuous intuition which, in the realm of the Beautiful, will manifest itself by means of artistic creation, in the realm of the Good by works of charity. A wider contact, yet still imperfect, may result in a wave, a jet, a constellation of ideas of genius, of bold views, but without continuity or depth.

A real, complete, perfect and durable contact can, alone, give the real knowledge of the Pleasant, the Harmonious, the Beautiful, the Good, the Just, the Logic, the True. We have no historical examples of these contacts, and it is much if we have, from time to time, in special subjects, some instantaneous contact, some more or less complete discharge.

It only depends upon the individual induct whether the discharge is lost or broken by contrary, useless or dangerous neural forces, or not.

How many mystic contacts are thus lost because of unsuitable neural apparatuses! How much spiritual force is dispersed in the phenomena of yoga, fakirism and others, exhausting itself amid the lower layers of neutrality!

When the individual apparatus is such that it can collect the discharge and transform it into a higher neural force, into a force-thought, this force comes into contact with all the existing forces and it is then that the complex play of inductions and reciprocal influences begins.

We have no *a priori* idea of this force with a supernormal origin, since it derives from the higher layers of induction. It may be very weak or on the other hand it may be capable of overturning and bending, on a sudden, all the pre-existing induced forces.

Everything depends on the characteristics of the contact and of the subject which serves as a bridge. Whatever it may be the force will take form in accordance with its characteristics and will react on the existing induced forces within certain limits more or less extensively, and beyond these limits its effect will weaken, till it is gradually extinguished.

So that a discharge of the higher neurality may have its effect an initial contact is not enough—an initial contact between universal neurality and the personal subject. It is not enough that the latter can convey the discharge and transform it into a regular neural force; this force must be able to act on other induced forces, i.e., it must enter into their composition, induce them, auto-induce itself and be induced.

If the force-thought falls into a region of dispersed individual forces (isolated intellectual elements) it may enter into the composition of some of them, but its effect will be quite limited.

If a force-thought of remarkable greatness falls near the mass or reaches it by entering into the composition of detached individual forces, it will unite with a great number of small forces and can thus strengthen itself, due to its growing greatness, can absorb and turn into itself the larger neural constructions already in existence. Then we have a veritable neural hurricane. The preceding constructions crumble and new ones emerge, constituting a new mean neural plane and modifying, by means of new neural inductions, all the values which are transmitted to individuals. The individual elements which have not helped on the initial advance of the force-thought remain as if frightened and surprised at the change. Some, drawn by the increased neural power of the mass, again merge into it. Others feel its induction more or less, others again remain isolated and dispersed. The new elements which come to life afterwards cannot abstract from the new strength, they remain inclined towards it submitting, even from afar off, to its powerful induction.

The extraordinary effect of an initial spark can only surprise one who does not understand that this spark is the discharge of a higher force of which the intensity cannot be estimated *a priori*, and which the person who fortuitously plays the part of discharger, does not exactly know about himself.

Thus it comes to pass that artistic or philosophic geniuses or moral heroes have been, in their lifetimes, misunderstood, persecuted and sometimes ignominiously killed or treated as visionaries, whilst after their death, sooner or later, they have found whole multitudes ready to praise their name, ready even to die for the truth promulgated by them, most frequently without understanding it. Often, too, they have found men of action willing to put their thought into practice, but sometimes, alas, in an entirely different manner from what they would have wished.

After the hurricane or neural wave has passed, nobody except the learned man remembers the truths for which the preceding generations have killed and let themselves be killed, for which the

martyrs have immolated themselves—truths which nobody then dared to contest or deny. A new neural construction replaces the old one, or maybe the latter has evolved and the truth first induced into individuals, while remaining in its origin the same, has now been refracted in a different and perhaps unrecognizable manner.

CHAPTER XIV

THE MACHIAVELLIAN MIRAGE AND THE ILLUSION OF PARTICULARISM

(35) PHILOSOPHY cannot and should not, according to Schopenhauer, give precepts for the practise of morals, prescribe laws and rules, tell the individual that he "ought to will" in a certain manner. It is as if one said, "make wood of iron." It should only illuminate and explain certain data, make into a limpid abstract knowledge what every individual feels. From this explanation of the essence of the world to the spirit of man, or better still this explanation of the essence of the law and the means by which it is manifest—for the essence itself is unknowable—the moral law is derived, this law being a conscious and reasoned adaptation to the essence where the adaptation is, in general, merely instinctive and natural.

This fundamental rule of Schopenhauer's ethics acquires a special importance if taken from our neural point of view.

So long as we have to do with lower strata of induction, the adaptation to the essence of the world is complete, and we may, in this sense, say that the life of animals is perfectly moral, since it is conformable to the rules of nature.

Of course this inferior order of "morality" does not satisfy us, does not conform to that to which we aspire, although some thinkers have seen the true and sole morality in purely instinctive adaptation to the laws of nature.

But in man this completely instinctive and natural adaptation can only take place partially and confusedly.

It cannot even be complete in little children or in primitive men, since with them also the upper strata of induction and above all of purely human reason intervene. These strata can, through their individualisation of induction, modify the consciousness, introducing disturbing elements which hinder the pure and simple adaptation of the instincts.

This passage from natural adaptation, which is instinctive and therefore necessary and obligatory, to a confused and painful adaptation (which takes place as soon as induction reaches the stratum of reason) is magnificently expressed in the story of original sin.

Until induction reaches reason there is no sin. The animal knows neither good nor evil. His instinctive will acts, in short,

in a fixed and unequivocal manner, under the influence of certain variations in the induct. These variations result from exterior stimulations, independently of all modifying intervention by the reason and the higher will, which are absent (*see* Chapter V).

Thus we get the animal period, the perfect happiness of Eden. Humanity is one, since conscience has not as yet differentiated itself. It identifies itself in a single couple.

Then at a certain point—by an evolutionary modification of the induct—the first spark of reason is lit. This is the tree the fruit of which is desired. The eyes of man are opened and he acquires the knowledge of good and evil.

A new world, a much better one, is the world which opens to his consciousness of self, which has but just been formed. Man feels like a God, and his ego becomes the centre of the world.

But he soon perceives that all is not beneficent. The thorns and tribulations inherent in the individualization of his conscience soon begin, and he regrets the garden of Eden of his lack of differentiation, without, however, being able to re-enter it. At the same time he becomes aware of the fact that the knowledge of good and evil has not in the least made him like God, but that there exists at least one other barrier, at which God has symbolically placed the armed guard of cherubims, so that man should not pass it and live eternally.

Original sin, thus, does not consist in the satisfaction of the sexual urge, an urge which is necessary and legitimate within the limits, of course, of nature, and which is common to man and animals, which must also have their own original sin. Otherwise the desire would not exist for them or it would constitute a sin as in man. Original sin is the fruit of reason, which is characteristic to man and which, together with individualization and auto-consciousness, causes an alienation from God and thence disobedience to His law. Thus only the Bible story gains a universal value and significance and in no wise contradicts even historically, the conception of perfect innocence and of sense stimulation characteristic of the original Hebrew mentality, as of the mentalities of all healthy and primitive peoples, as is confirmed all through the Old Testament. There the satisfaction of the senses is not only not considered to be a sin but is not even hidden or veiled as a thing of which one should be ashamed.

As soon as induction reaches the stratum of reason, consciousness of self is born and induction is relatively individualized. This individualization limits the horizon of the reason itself and becomes the source of a great number of illusions and errors of judgment and action, for the higher will, i.e., the self-will, the capacity for autodetermination, very different from the semi-conscious will of the instincts, is connected with the reason and follows it in its illusions and in its errors.

But when, having overpassed the stratum of reason, man reaches pure intuition, and emerges from individualization, from his illusions and errors, he re-enters universality and finds again, clear and evident,

the same principles which he instinctively felt, though obscurely and confusedly, in his interior consciousness.

In short, from the instinctive and natural adaptation (though it is perhaps incomplete), of primitive and simple men and children, we reach, or should reach, passing across an obscure zone of involutions, errors and wanderings, which is the intellect, to conscious adaptation.

The task of philosophy is to lead at least the higher part of humanity to the comprehension of this, and that higher part can afterwards serve as a guide to the rest. Thus moral life is no longer an obscure instinct, nor is it a severe law which has to be followed without knowing why—it is rather an aim inherent in our human nature, an aim which gives a sense and a goal to our terrestrial life.

Thomas Aquinas already expressed this concept when he said that if we could understand God we should have no difficulty in conforming to His commandments. According to St. Thomas human will tends towards good, but sometimes its intellect places before the will of humanity fictitious kinds of good, false aims, mirages, which it pursues in error, while it remains under the illusion that it is going after what is good.

Just as plants, placed in darkness, turn their buds towards the light, however small they may be, the human soul, however small it may be, in the obscure twilight perceives the light and tends irresistibly towards it.

Sometimes, led astray by false gleams, it does not succeed in seeing the true light and turns in deceptive directions. Hence comes the evil which—otherwise non-existent—results really from the fact that by running after mirages we tend in the opposite direction to good. The mirage sometimes results from neural constructions themselves, and then one gets evil done with good intentions, in accordance with the maxim that the end justifies the means. Thus we get the Machiavellian phenomenon which may also be called the Torquemada phenomenon or the Robespierre phenomenon of evil done with a good end. Whether it be for the triumph of a political or a religious, a social or a moral idea which in the thoughts of the men who cherish it is bound up with the good of the nation, of humanity and of certain classes or persons, we see man then unashamed of doing evil and separating himself from God, simply because he is following the mirage of this presumed good. Thus we see Machiavelli advise fraud, deception, assassination, in order to attain a political aim; Torquemada, persuaded that he was securing Paradise for himself and his victims, put thousands of people in prison, torture them, burn them alive. Robespierre tried to found universal fraternity on blood; and, more modest, "Donna Prassede" in Manzoni's novel, *The Betrothed*, torments Lucy for the good of her soul.

Neither Jesus nor Buddha nor St. Francis, nor, in a more limited sphere, Cardinal Frederick, acted thus. They approached God directly, by the shortest way, the way of good, and did not seek to rejoin Him by turning their backs on Him. But considering the matter from a purely practical point of view, it is allowable to ask

if all those men—Torquemada, Robespierre, etc., reached their aim or if their effort did not actually result in damage to the original idea, which they had so ardently caressed. Would Victor Emanuel II have succeeded in unifying Italy if, instead of his frankness and kindness, he had used the methods of Borgia, backed up with so much efficacy by Machiavelli? He perhaps would have got himself out of a corner more quickly in one set of circumstances or another, but the reaction of the natural, neutral forces which he would have provoked, might very well have overset him as they overset Borgia, and have hindered him from realising his plan.

And as to the Church, is it not permitted to ask if the method of St. Francis and St. John Bosco or that of Torquemada was the most apt for the attainment of their aims? And even, leaving comparisons alone, is it not to Torquemada, or rather to his spirit, that we owe the violent reaction against the Church which took place in the succeeding centuries? And would not Robespierre have succeeded better in implanting the ideal of equality and fraternity, which he certainly had in his heart, in the hearts of others, if he had not sought to impose it by blood and death?

And to limit ourselves to more modest examples, has a soul ever been converted to good by the methods of "Donna Prassede"? And has not the example of Cardinal Frederick sufficed to convert dozens, hundreds and thousands without coercion?

To imagine that good can be attained by means of evil is only an illusion, the worst of illusions. Even in politics, where by means of one of those ready-made phrases which go round about without anyone verifying their papers, an effort is made to convince people that scruples are useless. In politics, it is true, rigour, determination and energy are necessary, but beware if justice is lacking! Justice is the real basis of politics. If politics does not depart from the refraction of justice, if on the contrary it tends towards it with all its might, it obtains the sincere adhesion of all souls, it succeeds in uniting them into a spiritual bundle, a formidable force, powerful and durable. In the contrary case it may perhaps be able to impose itself momentarily by force, draw the masses by material advantages, but the inward reaction, dulled for a moment, by fear or interest, always manifests itself in the end with a violence which is the greater that it has been repressed by the anti-refraction of the unjust. Injustice falls back on the person who has committed it and creates a source of weakness much greater than the obstacles momentarily eliminated by the unjust act.

The law of the world is one, and imposes itself in every domain: it is the law of Good, that is to say, the law of God. Its violation, its alienation, for whatever reason or justification, only brings evil. The justifications offered are always inconsistent and sometimes even ridiculous, and in any case illusory. There is only one way, the way of Good, whatever happens. But if one looks on things from a higher point of view one sees that it only brings good, while the opposite way, even if it tends towards a supposed good, brings only

evil to him who follows it, because of his alienation from God, to others by the reaction which it provokes in them and to him again by the consequences of this reaction.

How vain it is for men to try to reach good by the way of evil! If we consider the history of human movements, of all violences, of all vexations, of all the victims which have been sacrificed to bring about the triumph of an idea, we ask ourselves if it was worth the trouble! Who to-day remembers the question of "transubstantiation" or "consubstantiation," or other innumerable questions of the same kind which cost so much blood and so many massacres? There has just been discovered in Piedmont, a gallery filled with carbonised matter. It seems that this matter is the remains of four hundred Guelphs, men, women and children, shut up in a cellar and burnt alive in 1320. What remains of the idea for which these unfortunate people were so barbarously massacred? The various neural waves, driven by different winds, collide, overturn and destroy, but they soon disappear and the sea of neutrality becomes what it was before. Light breezes blow instead of the stormy winds and nobody remembers the past storms. But again the light breezes are transformed into winds, raising new waves which advance, break, dash one against the other. New shipwrecks take place and the victims fall by thousands. Then the neural sea grows calm again and the sun smiles on the landscape, forgetting so much mourning and so many deaths.

It is over these alternatives of calm and storm, of bright sunshine on the quiet waves and stormy clouds, menacing and darkening the turbulent sea, that some wise men and some saints alone have known how, all through the course of human history, to raise themselves and to consider things, not from the point of view of the breaking wave, but from that of the immense ocean which is as beautiful in its calm as in its storms.

(36) The knowledge and comprehension of the neural laws leads naturally to supertolerance, for they lead to the comprehension of everything, even our individual, collective and social passions, which are only shocks, overstrain, discharges of neutrality. The knowledge and comprehension of these laws also lessens, if it does not annul the shock (this latter is impossible unless we can get perfect inducts), but at least there is an attenuation, a blunting of the sharpest points, and at the same time a collective turning of the world towards the sole good, which is likely to bring humanity near to God, to deify it individually and corporately.

This is where the responsibility of the best people, the men whose thought and actions are higher, the elder brothers, the masters, comes in. They have to serve as guides and to show the neophytes the way of Good.

They must first of all divest themselves of the illusion of singularity, that is, the illusion which makes them tend to believe that their own construction is the most perfect, that it is definitive, that it is the only one which possesses absolutely, the beautiful, good, just, logic and

true. This illusion, which, together with the Machiavellian mirage of doing evil that good may come, has been the cause of the greatest bloody shocks of humanity. It should be abandoned if we realize that we live in an induced world and that our "absolutes" are only, in consequence, "induced absolutes."

All the truths, all the certainties which have, up to the present time, given a sense of life, which have consoled and spiritually sustained so many simple souls, primitive and uncultivated, must they lose their value?

Not at all, for these induced truths are none the less truths. In the second place, if the elder brothers, the masters, will lead humanity towards good they must absolutely place themselves on the level of their juniors. All minds are not prepared to approach the divine and cannot find in themselves that serenity, that joy reserved for philosophic spirits, which absorb themselves directly in God. Consequently a philosophy which insulted religion, which wasted its time in showing cult and images to be childish, would be a philosophy which was very poor in spirit, like the mentality of an elder brother who mocks his little brother because the latter sweats and strives to understand the signs of the alphabet. The elder brother should, on the contrary, help him, make his difficulties easier by accessible words and certainly not present him with a treatise on algebra. Later on, when the young brother has learned the alphabet, he should not, on the other hand, hold him back and without a reason force him to stop at the same elementary signs, but should accompany him and guide him little by little on the way of superior knowledge.

In the same way those who initiate some uncultivated workman into the knowledge of the elementary principles of mechanics, should neither use abstruse formulae nor differential calculus, but should limit themselves to clear explanation, sometimes purposely inexact, but the right kind to serve in practice. It is useless to look for the general laws of physics and electricity, but we must limit ourselves to the field of acquirement accessible to the mentality of the workman. If later he shows sufficient natural intelligence, he can be accompanied by degrees to the higher bounds of human knowledge, to the point where he should be told: "We have reached here. We know nothing more. Before us is an unexplored field, in which the human spirit is painfully advancing."

It is curious that the same dogmatism and the same obstinacy are common to popular religion and elementary culture. We have every day a proof that the less a person is cultivated, the more positively he affirms, without the least little doubt what he knows, the more he swears in *verbo magistris*. He believes his notions independently of all criticism. He takes no count at all of the fact that these notions are very often no more than approximations to the truth or provisional hypotheses which, for want of better things, real science has placed before him. He does not realize that science itself is only a continual process of rectification and revision, of depreciation of what has been previously learned to make place for something new, more evolved in form, more perfect.

But, after all, that is of very little importance. The essential thing is that the fundamental notion, the point of departure, should be the right one. Thus the means by which the idea of God is presented is not very important. It is better that it should be presented under a variety of forms, suitable to the intelligence, to the capacity for comprehension, to the characteristics, to the preparation of those who will receive it, provided that the higher men at least take count of this fact, and look upon it as just a child's game, the tendency of everyone to seek the most beautiful image.

And not only is the multiplicity of forms legitimate and necessary, as much historically and geographically as ethically, for the needs of the peoples and human groups, but even there must be a ladder adapted to the capacities of comprehension of the men who compose the human groups. Formerly this kind of necessity was publicly proclaimed. Among the Egyptians, for instance, the religion of the priests, a spiritual monotheism imported by the Semites and perhaps derived from Abraham himself, according to the traditions recalled by Joseph (*Jewish Antiquities*, 1-8) was very different from the popular cult.

Among the Hindus there is a whole scale which includes several planes of comprehension, from the most subtle spiritual speculations to sometimes most simple and childish images. It is the same with the western religions. St. Thomas' philosophy if placed without preparation before a humble pious man might seem to him unbelief or irreverence, for it is very far from the images of faith which he is accustomed to look upon without much reasoning about them. But on the one hand a certain democratic desire not to make or create differences or categories, and on the other a certain indifference to the fundamental problems of religion—characteristic of all western mentality—have resulted in reducing religion, for most of the faithful, to a few images, too simple and childish to content more evolved souls. With these souls, these images remain a thing apart, mingled with the memories of childhood. From time to time they just touch his memory, they give him a feeling of home-sickness and sweetness, but they are no longer an integral part of the life of the grown man. Thus for want of adaptation to the comprehensive capacities of superior men, the religious sentiment is disappearing, but not religiousness, which has never been so lively as in our days, given over as it is to the uneasy research for what may satisfy it, going so far as to resort to extravagant sectarianism, to mystico-hysterical forms of exaltation, which never lack adepts.

If across the centuries, instead of wasting their time in fruitless struggles, people had taken count of their different forms and gradations, we should now have a magnificent and complex organism, truly universal, a monument of civil tolerance and of humanity tending towards God. For above all the forms with which it has been clothed in various times and places, beyond the more or less rich and brilliant dalmatics in which it has been draped, the fundamental unity of religion asserts itself and shines out for anyone whose eyes can see, who is not too much prejudiced and who can find the kernel common to all.

It is to this kernel which, leaving aside all the deviations and superstructures which have followed each other, we should go back. It is to it that we should refer as often as human thought goes through one of its periods of spiritual crisis, during which it criticises pitilessly all its former conceptions and the forms with which they have been clothed in the course of the centuries.

All the decrepit forms have crumbled, the most brilliant cloaks have been put aside, replaced by others, but, if the pure, original conceptions have remained lively and vigorous, that proves that they correspond to something real, true and imperishable.

Actually, on the one hand, the pure Abrahamite monotheistic conception has remained. From it is derived the Mosaic religion, suitable to maintain the monotheistic tradition in those descended from the patriarch of Ur; the Christian religion, suitable in its Catholic form to speak to the heart and the sentiments and thus to induce people to come near unto God, and, in the Protestant forms, to speak to the individual reason and thus to conduct it to God by means of the moral law; the Islamic religion, more adapted to the temperaments of sensual peoples, passionate and imaginative. On the other hand we have the Indian Vedic conception, from which are derived the Sankhya and Vedanta, the Yoga philosophy, all the different forms of Brahmanic deism; the Buddhist religion and, finally the Sufist branch, which is connected in a singular manner with Mahometanism of Abrahamic origin. All that corresponds, in short, to something true, real and imperishable. If we observe these two pyramids, so similar, at the top of which there shines the same spark of divine contact, Abrahamic or Vedic, we cannot refrain from asking ourselves why all this hate, why all the misunderstanding, all the intolerance, so much exclusiveness, when none of the parties is useless to the divine construction, which is really—for those who regard it spiritually—the greatest human monument of the greatness of God.

In a structure so complex and so harmonious there is no room for intolerance. Each element has its reason for being there, and tends towards certain ends. It reveals the error of those who, by their mental attitude—not being able themselves to comprehend the whole of the structure—seeing only the niche where they themselves are planted, think they are doing good by destroying the other parties—not perceiving that all are bound to each other and that if, for instance, they succeeded in destroying them it would be to crumble with them. Thus one can only do good in one way—by turning towards Heaven, towards the common summit, by approaching God individually and co-operatively on all sides, from whatever place one may have started.

It is in that slow but constant ascent, which is still the only real progress of humanity, a progress which may easily exist if it is co-operative, and which is lost, destroyed or absolutely negative when the columns, instead of supporting each other mutually, wrestle with each other and try to get the better of each other.

CHAPTER XV

THE ILLUSION OF MATERIALITY

(37) THE Machiavellian mirage of good sought through evil and the illusion of singularity derived from an error in perspective and from a misunderstanding of the complex and sublime construction which on every side leads to God, are not our sole errors. There is also another mirage which may be called the mirage of materiality. As the result of this mirage, which is very common, we seek good where it is not and just in the very place where this mirage shows it to us, placing before us a whole series of material attractions and saying: "Here is happiness."

The sensation of pleasure which, as we have seen is combined with a movement (urge) which tends to bring us nearer some refraction—the refraction of the pleasant, the good or the true—is the source of the illusion of materiality. By "movement," of course, we do not mean a material or physical movement, but an increase of induction connected with a given refraction. The feeling of pleasure is not connected with any static position, but only with a dynamic variation of the induced force.

We have already seen that that which gives the intoxication of swiftness is not a certain rapidity in itself, but the acceleration which leads us to expect it; just as what gives pleasure is not a certain static induction, more or less above the level of some neural sector, but is the increase of induction which we may, in an expressive but incorrect phrase, call the movement of approach to a given refraction.

In the same way for example, in the domain of the pleasant, pleasure is not the enjoyment for years of an enchanting view, but the attaining of it. Enjoyment is an act—which may be very quick or even slow, as we will—by which this view enters in and makes itself a part of our consciousness. When this penetration, which may be more or less slow, and may be repeated for longer or shorter periods, is ended, the sight itself gives us no more satisfaction, I will say more, it becomes indifferent to us and even, at last, boring.

A saint will never be—in the refraction of the good—satisfied to remain at the same level of sanctity, but he will find his happiness in surpassing himself more and more. A mathematician—in the world of logic—will find no pleasure in considering the knowledge he has, but he will find pleasure every time he can increase it, and so on.

Even in everyday life, though we pursue material and illusory aims, satisfaction consists only in the effort we make to attain them. The aim attained, it has no further meaning. What counts is, in fact, action. It is the tension of all the individual energies towards success; it is the proof one gives to oneself of the worth of one's energies. This proof is of no value except at the time when it is used, and it has to be repeated afterwards continually. Children's games, the sport

of youths, are the aptest ways to measure personal energy, for they are the most independent of the aim and the most disinterested. Thus they are the freest dispensers of joy.

The life of man is only, according to Schopenhauer, an endless aspiration, without an aim or an end, in which people strive to reach chance aims, to which they tend with enough success to save them from despair, and enough failure to protect them from boredom and satiety, which appear as soon as the goal is attained. Rich and poor do not rejoice in what they have, but in what they hope to obtain.

Schopenhauer draws the conclusion that life, being but a chaos of desires turned in opposite directions, is nothing but pain. In saying that he contradicts what he affirms himself; i.e., that in course of attaining the aim we experience satisfaction and that the chaos which reigns results from the fact that very few people direct their efforts towards the knowledge of the essence of the world, that is, in other words, that very few people direct their desires and aspirations in the right direction.

Nobody denies that there is pain in life, but this pain is not essential, it results rather from the dullness which directs the efforts of men wrongly, and which makes them seek their happiness in fixed earthly goods, whilst happiness is only a component part of the movement which brings us near to one of the refractions.

The absolute end cannot be attained because, as we have seen, the neural sectors extend into infinity. It is better that it is so, for the movement and in consequence the satisfaction, the joy and even the felicity can be infinite. When we reach the extreme limits of the refraction which we can attain, an imperceptible movement suffices to open completely new worlds to us and satisfaction and happiness may be, then, very great, even if they are, apparently, static. Schopenhauer even speaks of a happiness of aesthetic contemplation, or moral contemplation.

Thus it is not possible to attain absolute happiness, but we reach happiness in trying to reach it, happiness the more pure and intense because the effort is directed towards one of the refractions, or even towards all of them.

The opposite of satisfaction is despair, that is the minus variation of induction from one sector to another, the descending movement, the going further and further from the refraction. Between the two is boredom, that is, the static situation. When the neural movement ceases, when we reach all the aims, and when no exterior or interior cause varies positively or negatively, the neural situation in regard to one sector or to all is inevitably boredom. Boredom has nothing to do with nearness to or distance from a refraction, it is solely the result of lack of movement. Boredom which is inevitably connected with every end attained and which cannot be surpassed, made Schopenhauer conclude that happiness does not exist, whilst, according to our thesis, not only does it exist but it consists precisely in what one seeks to attain, which is infinite, because the neural sectors extend into the infinite and action tending to attain what is infinite is itself infinite.

Felicity and happiness are not, then, static. They do not come as a gift of God rewarding idleness. They are dynamic, connected with action and movement, and they must be deserved and conquered continually, by means of moving only in the right direction. They are alive in conquest and in movement, dead in cessation.¹

Bliss is dynamic too in contemplation, though we have here to do with movements so imperceptible and so subtle that they escape the perception of most men. In any case ecstasy is a being rapt, an elevation, an ascension towards God.

The necessity to objectivate this aspiration, this movement, comes simply from the fact that most individuals who have developed pure intuition but a little or not at all, do not know the higher worlds or have only an insufficient and confused knowledge of them. They therefore need a material aim, constituted of exterior objects or facts. The only value of this aim is to provoke movement.

It is easy to understand how, as the result of the intervention of exterior fact, the sentiment of satisfaction which we experience as we approach the refraction may be *transposed* to the object which provokes the approach. This *transposition* gives the illusion of increasing satisfaction as we increase the number of objects attained. It leads to the error of believing that happiness consists just in the possession of these objects.

What is more, it directs the aspirations of the average man towards a number of material objects, provisional and occasional aims, which very rarely and fortuitously are capable of provoking a movement in the right direction, but most frequently urge one in the direction of a mere component, sometimes a very small and valueless one, or even in a wrong direction.

This transposition holds good for all the refractions, but it is most evident in everyday life in the refraction of pleasure, which is the commonest refraction and the one most strongly felt by the average man.

The intensity and purity of this refraction obviously depend on the characteristics of the induct, but it is also necessary—at least usually—that some exterior fact should exist which is capable of provoking a disposition of the senses suitable for its arousal.

When these dispositions of the senses which can bring us near, even in a vulgar fashion, to the refraction of pleasure, cease, the fact or the exterior object which has provoked them becomes unimportant. That same landscape which has filled us with enthusiasm bores us a while after we have reached, with difficulty, a height from which to contemplate it, and, if we were obliged to contemplate it for a long time we should finally hate it.

Appetising food, an agreeable flavour which sharpens our appetite before the meal disgusts us when we are sated.

There is nobody who, in his youth, when reading descriptions of Roman banquets enlivened by soft music, has not looked upon

¹ Aristotle thought that pleasure results from free and spontaneous activities in accordance with nature. It is not the aim of action, but it adds itself to action as flowers do to youth.

them as paradisaical: now that the radio has placed this at the disposal of everyone, it no longer interests us and sometimes causes boredom or even disgust.

These very trifling examples, connected with the most elementary sensations, confirm the statement that the *object* is absolutely foreign to our satisfaction, which consists solely in our approach to the pure refraction, even though we make use of an object to obtain that approach. In other words, the refraction is in us and not in the object, though the latter is generally necessary to provoke the increase of induction corresponding to our satisfaction. It is easier for a peasant to rejoice really and naturally while eating some bread and onion, than for a rich man to do so when he savours the most excellent wines and the most succulent dishes.

Consequently, without arriving at the conclusion which even Schopenhauer recognized to be paradoxical, namely that the measure of pain is already fixed in us, innate in our temperament, hence inevitable, whatever may be the chance cause, great or small; we may yet agree that our sufferings or our enjoyments, greater or less, more or less intense, caused by an exterior object or fact, do not depend on what is outside, but only on the inherent disposition of our individuality towards the conditions—these conditions varying continually. An exterior circumstance may actually, even in one and the same person, cause a pleasure or a pain according to the moment.

(38) The exterior object or fact is, however, not even necessary, contrary to what would at first sight appear, to the refraction of pleasure.

Even in this refraction—which appears, mistakenly, to be so material, we may get, when we reach the stratum of pure intuition, the sensation of pleasure apart from any object, and thus independent of the senses, through which it has not had to pass.

It is beyond doubt that certain mystic forms of asceticism, above all oriental ones, approach so nearly the pure refraction of pleasure that in comparison with them the sensation obtained through the senses is only a vulgar trifle. Even without going so far as these exceptions, the sensation of pleasure which we experience when we are climbing a mountain is completely independent of the satisfaction of the senses at the view, or even of vanity and pride or egoism, which we will discuss in the following chapter. We know that real Alpinists are reserved, they do not like to talk about their enterprises, still less to boast of them. What is in question for them is a pure sensation, independent of the object, a mysticism bound up with the refraction of pleasure, which is a commoner thing than people think.

Warlike ardour, athletic or competitive ardour, may also be pure, they too may constitute a mysticism of pleasure, provided they do not degenerate into rivalry or hatred, into an anti-refraction to the beautiful, the good, the just, the logic and the true.

The chivalrous war of Bayard, "the knight without fear or reproach," a war which deals out and accepts death from the arms

of the loyal and the free, the ideal war of Roland and Renaud, of the songs of great deeds, of knights who interrupt single combat to oblige their adversary, and "without distrust" resume it afterwards and fight to the death. This war, thus purified, even though it is only possible in the verses of chivalrous poets such as Ariosto, is a war which answers to the pure refraction of pleasure, devoid of any anti-refraction. It is not for nothing that the soul of nations was enthusiastically enamoured of it for several centuries.

Ariosto's poem is in this sense a mystic poem, for in it there is manifest in the highest degree the pure refraction of pleasure. Thus it is a masterpiece which has exercised and still exercises the greatest influence on souls capable of understanding this mysticism and approaching it.

Ambush in this kind of war would be nonsense. It would be as if an Alpinist surreptitiously left the dangerous path and reached the summit by a way accessible to everyone. What satisfaction would he have? None at all! Whom would he deceive? Himself. They prefer to lose their lives on an inaccessible wall or even to declare themselves to be honourably defeated, than to reach the summit by a trick directed against themselves.

What we have said does not prevent the struggle by ruse, the struggle of Ulysses, from having its charm and its share in the refraction of pleasure, but then the ruses must be "loyal ruses," that is to say ruses which both sides can execute.

The objectivation of aspirations and the illusion of materiality are easier to demonstrate in connection with the refraction of pleasure, but they also exist in connection with all the refractions.

Those who can derive pure intuition directly from Beauty, Goodness or Logic are very few in number, and yet the tendency to approach these refractions exists in all, even unconsciously, even when the opaque diaphragm of the reasoning mind hides from the will the sight and knowledge of the higher heavens. This is why, not being able to draw the pure refractions directly from their source, most men satisfy their unconscious tendency to raise themselves, by means of objects, by approaching which they can find at least a slight but satisfactory movement towards what is higher.

It is thus that we see, in connection with the refraction of Beauty, that those who cannot reach it by pure intuition seek to enjoy it indirectly, by endeavouring, for instance, to make collections of pictures, whilst the refraction, being within them and not in the picture, a single picture which appealed to them would suffice to awaken the refraction. If they were capable of reaching of themselves the pure refraction, even this picture would not be necessary. It is in this sense that we admit that a painter of genius might be blind yet might enjoy inexpressible beauties even if, because of his physical inferiority, he was not capable of manifesting his enjoyment in a work of art which would serve others less gifted to excite and awaken within themselves the refraction of Beauty. Beethoven, though deaf, must certainly have enjoyed the celestial music which he was able to express

partially in the ninth symphony for the benefit of those who were less gifted than he.

The illusion of materiality impels a man to amass a great number of pictures, as if that could increase the refraction of beauty which is in us, whilst actually it diminishes and depreciates it by dispersing it. There is nothing colder, more wearying and less susceptible of raising us towards pure beauty than a gallery or an exhibition. The exhibition is just a bit of crudition. We can only obtain from it the real sense of beauty by hastening through it, our eyes half open, stopping only and for a longer time, before the works which appeal to us most. In the same way a concert of disparate music is absurd, and is but a show of musical erudition, unless there is a practical way of enabling each one to choose and listen to those pieces alone which correspond to his refraction of harmony.

In the same way the houses of certain newly rich people, with piles of works of art, are as inartistic as one can imagine anything to be, and go to prove that the aim of such a collection is very far from being to reach the refraction of Beauty, nay is rather the desire to acquire importance (*see* Chapter XVI).

The works of art in a house may be many, but they should be synthesised. It is best, then, when they pass unperceived, for they ought to play a part in the artistic unity of the house such that if they were not there, there would be something lacking, whilst being there they are not noticed, because they could not fail to be there.

We get objectivation, too, in connection with the refractions of goodness and justice. It consists in exterior acts and forms which easily degenerate into bigotry and narrow rigorism. They thus form a kind of barrier which removes the soul further and further from the possibility of approaching pure intuition into goodness and justice. As regards logic, we can find objectivation manifested in the search for the possession of a great amount of knowledge derived from others, that is through erudition. The illusion which leads the refraction of logic into objectivation, into the materiality of erudition, hinders the impulse which in many cases might lead gifted individuals to pure intuition into logic.

Objectivation shows itself even in the refraction of truth, through the construction of idols—as Bacon calls them—which must be got rid of in order to reach pure intuition into truth.

* * *

The illusion of materiality which transfers to one or several objects the satisfaction inherent in a refractive component of movement, prevails everywhere in the world (considered as an induct), and in our everyday life.

Even though life continually denies this illusion, man continually falls back into it. This tendency to keep falling back into the same mirages permits us to presume that they are innate in our intellectual stratum, that they are due to a kind of opacity or nebulosity of this

intellectual layer, which acts as a diaphragm between the will and pure intuition. In consequence the only way to rid ourselves of the illusion is to surpass reason and raise ourselves to pure intuition, which is not given to everyone.

For those the conformation of whose induct does not allow them to attain pure intuition, the help of their elder brothers, the masters, will be most useful. Their words, proceeding from the heaven of pure intuition, free from clouds, will serve at least to direct brethren, lost in the mist.

CHAPTER XVI

THE ILLUSION OF THE "SEPARATE EGO"

(39) THE illusions which we have examined proceed from errors or from dullness of understanding and they cause the chaos apparent in the induced neural realm, but they are neither casual nor inexplicable like the veil of Maya which is lowered at a certain point no one knows why. These are reasonable illusions, that is, illusions aroused by natural causes which reasonably might give rise to illusions, just as the phenomenon of the mirage in the burning desert makes men see a verdant oasis. This mirage is not due to the *Fata Morgana*, but to a group of natural laws which are clear and simple. Nobody, indeed, any longer attributes this phenomenon to a supernatural power; any ordinarily educated person knows how and why it takes place.

It is thus that the Machiavellian mirage can be explained by natural laws. Just as on a mountain, when the mist comes down, we may lose the way we should follow and take another in good faith, without perceiving that it is leading to destruction, so when the mists of the understanding darken the sight of the summits to which we should tend, it is easy to turn in a false direction, whilst remaining persuaded that we are taking the right one.

If this persuasion is fixed in us, we draw others after us and when, by chance, we have the opportunity, we even seek to constrain them "for their good" to follow us, persuaded that the way they are going, which, however, may be the right one, is wrong. Thus we hasten to our ruin and to theirs. Or again, finding ourselves in a right way and seeing others going somewhere else, we feel impelled to draw them towards us, whilst their road may be as good or better, and in any case more suitable to their means and needs than ours. Those who climb a mule path with difficulty, when they see experienced Alpinists escalading rocks cry out: "They are madmen! They will kill themselves to no purpose!" If they could they would persuade them or force them to come their way, not thinking that for Alpinists their way has no attraction, and that these latter actually need the difficult climbs which are avoided by ordinary man.

The ace, for his part, mocks at these Philistines, whose whole joy consists in the modest kind of ascent suitable to their natures and to their possibilities, and who if they adopted another would undoubtedly break their heads.

Not everybody can reach the supreme summit, which is inaccessible and cloud-covered, but just because the summit is hidden, those who reach lower peaks believe in good faith that they have scaled the summit and cry out to others that they are deceived and should go their way.

This illusion of singularity is perfectly natural, for the group of "mountaineers" is so complex that one cannot get a general idea of it except by detaching oneself and flying in the sky of pure intuition. But not everyone has the kind of wings required for this flight, most people must live in the misty realm of the understanding, endeavouring not to become the prey of too many illusions and listening to, at any rate, the voices and signals which from time to time, come from above, that is, from the realm of pure intuition.

The illusion of materiality is, also, at bottom, perfectly legitimate and natural. As satisfaction owes its origin to movement, and movement is determined by objectivation alone (except for those who have attained to pure intuition), it is natural that man should transpose the satisfaction due to movement to the object itself, without thinking—or only partly thinking—that the satisfaction is proportional solely to the refractory component of the movement. If this component is absent, the movement, even though very fast, will give no satisfaction. If it is negative, it will even cause despair instead of satisfaction. Most men, having but a confused consciousness of this, get lost amid disparate movements, sometimes getting insignificant and sometimes negative results. Schopenhauer is right when he states that humanity exerts itself for an illusory good, for a phantom which slips out of its hands, but the reason is that humanity seeks in a wrong direction. It is like playing blind man's buff. One runs here and there, deceived by deceptive cries, but it would suffice to raise the bandage a little to see the way one must go.

Another important illusion which is perfectly legitimate and reasonable is the illusion of the "separate ego."

Since everyone has an induct, and only receives his induction through that induct, it is natural and legitimate to try to keep it going, to maintain its life. This instinct of preservation is legitimate, it constitutes a duty, but if it gets exaggerated by fear or is accentuated, or is mingled with the effects of other illusions, it becomes selfishness, greediness and violence. Here also the characteristically instable condition of everything in the neural world (and in the physical world) is manifest. The physical world is but an equilibrium of continually variable forces. Each molecule, like each star, is every moment in a position which is determined by the momentary equilibrium of the forces acting upon it.

Thus the individual soul must reach its equilibrium between the centrifugal force of its natural tendency to individualization and the centripetal force of its social instincts and its universality, i.e., sit

membership of a social group and at the same time its reception of the inductive flux, which it derives through induction.

The tendency to the separation of the *ego* is for the Hindus in general, for Buddha in particular and for Schopenhauer, the root of all evil, and according to them we must try to eradicate it by destroying the desire, that is the will, which impels in opposite directions and leads to disorderly encounters with other *egos*. We should seek to submerge ourselves in Being, like a drop of water in the resplendent sea.

This completely pessimistic conception cannot be ours, for the mere fact of the existence of an individual induct entails a necessary and natural separation between the different *egos*. The illusion of the separate *ego* is by no means the tendency to individualize oneself, it is rather the excess of this tendency, caused by fear or rather excess of fear.

The annihilation of the individual soul in Being, is not possible either, because we have to do with an induced force which is always distinct from the inductive force, which we can only approach by pure intuition. To-day, at least in its higher forms, this is limited to a few individuals. But we may presume that it may become accessible to a great number, and that it may even be surpassed, and levels of induction reached which are absolutely inconceivable to us to-day. In the same way we can imagine the possibility of extending induction beyond the pleasant and the true, and reaching refractions of which at present we cannot have the least idea.

But Nirvana, that is "the conscious realization of the Unity of life, where several are One" cannot be attained more than approximately during life.

Setting on one side the fundamental differences with the Oriental and Schopenhauer conceptions, the illusion of the "separate ego," or, to be more exact, the excess of the tendency to separate our ego from others, is one of the greatest causes of the evils which man, by reason of his ignorance, inflicts upon himself. His knowledge of social life, of universality and totality should serve as a counterpoise. To remedy this excess and bring back the tendency to individualization into natural and normal limits, we must of course know and remove the cause of the excess, that is, fear, which is the fundamental spring of life, which, as we have seen, is bound to the necessity for the preservation of life itself, that is, the preservation of induction. If fear did not exist, if natural pain did not exist, life might just as well not exist, since nothing would hinder the extinction of induction or the disintegration of the induct. And it is probable that life would not even come into existence, for when even with fear and pain playing the part of armour, it has so much difficulty in existing, we may conclude that if these did not exist it would be dissipated.

Natural fear and pain are thus inevitably connected with induction.

They are the guardians which have to protect and maintain it. Without them, nothing would prevent its dissipation. It results

from this that induction, that is life, tends to be preserved by means of them.

This tendency to maintain oneself is manifested for the individual by the instinct of self-preservation, for the species by reproduction. As individual induction is very often absorbed by the more complex inductions, that is by social induction in its different degrees of the family, the clan, the country, the religion, and in rarer cases by universal induction (this last in spite of the principle of individual induction). It is in the first degree that we more frequently find the heroism of persons who sacrifice themselves for their family, country or religion, or for another person, whose existence is identified for them at the moment with the social bond, the universal human bond. It is in the second degree that we find the very rare heroism of those who overpass the idea of interior limitation and come to social induction, reaching thence the universal idea. Such were, for instance, the first martyrs of Christianity, conceived as a universal idea. Finally complete heroism consists in surpassing even human universality and arriving at totality. This kind of heroism shines in the lives of Buddha and of St. Francis of Assisi—lives which were heroic even if, due to chance circumstances, they did not end by the bloody sacrifice of their body.

Returning to natural fear and pain, we have seen that they are the two guardians placed to maintain induction, and consequently attached to induction and even to life. They are thus necessary, but they should not become mistresses instead of guardians. It is obvious that natural pain is intended to preserve the physical body of man, and there is no need to expatiate upon that.

More complex is the function of fear which is connected with any possibility of the diminution or extinction of induction.

Fear in general dominates life, beginning with the animals, and excites a whole series of perceptive powers by which a species preserves itself from another—sacrificing in each generation a certain number of individuals—and succeeds in maintaining the induction of the species. Two considerations show that fear is constitutionally connected with induction. It is not the result of pain, since a gazelle which is caught by a lion is caught but once and cannot in consequence make use of the acquired experience. Neither is it connected with heredity since this same gazelle, caught by the lion, does not procreate and thus has not any descendants capable of inheriting the experience.

All the living gazelles obviously derive from an innumerable series of gazelles, none of which has fallen into the clutches of the lion. It may be observed that, due to the famous natural selection, only gazelles which were afraid were able to get away, but even if this may explain the physical fact of the fleetness of gazelles, it does not explain the well-known feeling of fear which, in many cases, paralyzes not only animals but man himself. Besides, the fact that originally there were gazelles which were afraid and others which were not afraid, does not seem to be very cogent. According to the laws of atavism brave gazelles should in this case sometimes be born. For it is per-

missible to presume that the presumed intrepid gazelle ancestors did not all fall into the clutches of a lion as soon as they were born and before they could have children.

Fear, carefully analysed, seems rather like a general law, an element essential to natural life, which may be made drowsy in the domestic animals by the effect of protective human induction, and sent asleep in others which from time immemorial have lived out of contact with the rapacious species.

It suffices, however, for a single member of these species—of which the said animals have no experience either direct or through the preceding generations—to approach them, for fear to awaken at once, with lightning rapidity. To convince oneself of this it would suffice to try to introduce a tiger among sheep which, having lived and prospered in another climate, have had no idea of a lion or a tiger, even before they became tame.

Another singular thing is that fear is by no means connected with the idea of death, for the animal does not know what death is, neither does it know it will die. Fear is thus a thing by itself, solely and indissolubly attached to induction.

Not only animals but even man, as Schopenhauer remarks, is not specifically afraid of death. This idea may sometimes torment him when some circumstance recalls it to his mind, but in him as in the animal which does not think, the certainty deriving from his innermost consciousness that he is nature, even the very world, persists as a permanent condition. It is as the result of this certainty that the thought of certain death, always near at hand, does not disturb any man and each lives as if he were to live eternally. And this state of things goes so far that we may say that nobody is really certain of his own death, otherwise there should be a great difference between the state of soul of each individual and that of a man condemned to death. Everyone, on the contrary, lives without fear of annihilation and without anticipating it, sustained by the consciousness that he is nature itself and in consequence is eternal. All explanations based on habit or adaptation to the inevitable are insufficient, as well as all proofs of immortality. It was without proofs that the persuasion, the profound conviction that the *ego* belongs to an eternal essence and survives the body, was originally rooted in every soul.

Schopenhauer having considered one only of the aspects of Being, that is, the will to live, justifies this fundamental sense of immortality by the identification of the individual will which objectivates itself, temporarily and in an ephemeral manner, in a determined individual, with the universal will which is eternal, imperishable and for which there is neither time nor space.

Induction is for us a much more complex manifestation than the simple will to live, which is only one of its aspects. It comprehends all the various strata, down to the very bottom, from the unconscious pulse of the heart up to pure intuition and it extends from the pleasant to the true. In spite of this greater complexity the justification of the sense of immortality is included within the fact that induction

is an occasional manifestation of a universal force, imperishable and eternal, beyond time and space as they are conceived by the human individual.

Fear is, definitively, indissolubly connected with induction and is felt more at night than in the day, more in darkness than in light, in which fact we see a very curious connexion with the variations of induction. *If in accordance with our fundamental thesis induction manifests itself by the existence of a field of neural force and if all the forces existing in nature may be attached to a fundamental unity, it is legitimate to think that there is or may be an interference, an influence passing from the one to the other, or exercised by the one over the other. In consequence since, during the night, the vibratory solar effects cease or diminish, since the cosmic rays in which, as we may say, our world is enveloped, vary, the inductive neural force diminishes in intensity or is at least modified. We have, practically speaking, a diminution of induction, and it is just the lowest strata of the pulsative force and the obscure vital forces which are the nearest to the physical cosmic forces and consequently the most closely connected with them. It is with that diminution of induction, the stronger influence of fear during the night than during the day is connected, and perhaps also with the fact that natural sleep comes more easily during the night than during the day: the diminution of the intensity of the inductive flux in its lower forms, accords with the diminution of the intensity of induction in its higher forms, an effect due to physical degradation of the induct. But fear appears in, and is essentially bound to, the lowest forms of induction, because it is they which assure life, whence comes the apparent contrast that night makes us afraid, because it brings about reduction of the lower forms of induction, whilst sleep does not frighten us because it implies only a reduction of the higher forms, which are not necessarily connected with life.

The adoration of the sun and moon acquires from this point of view a new significance and spiritual justification. Moonlight tempers and softens the reduction of the inductive flux, and in consequence maintains life on a higher level than absolute darkness. For that reason the moon also, raising the level of induction, is worthy of adoration, but in a lower degree than the sun.

(40) As one reaches the higher strata of induction, fear is mitigated into the gentler forms of embarrassment, respect, timidity. They are always connected with the danger of the diminution of induction resulting from the effect of the induction of other people, but only affecting the higher strata.

This same sense of the "separate ego" which, within its natural limits, is legitimate and makes fear its natural safeguard, becomes, on the other hand, if it is exaggerated and if the fear is also exaggerated, an excess, with all the ills resulting from it.

The first of these is *selfishness*, that is to say the phenomenon by which the legitimate safeguard of personal induction is changed into suspicion of all induction from others, for fear that it should

substitute itself for ours; or becomes an exacerbation of the tendency to separate ourselves, or the exclusive affirmation of personal induction to the point of eliminating the induction of other people, either morally by subjugating it to one's own, or materially by violating it and even by annihilating it.

The second evil attached to the first, but enlacing itself too with other elements deriving from the illusions of materiality, and of particularity, is *self-interest*, that is the phenomenon by which the legitimate desire to secure material goods with which we may preserve our own induction, such as food, shelter, a minimum of comfort, becomes a grabbing of a great quantity of these goods, more than we need, fear and suspicion that others will take them away, the endeavour to get them at the expense of others, by every means, including fraud and violence.

The illusion of materiality, transferring to objects the satisfaction inherent in the refractive component of movement, increases this phenomenon of self-interest, and causes the inextricable tangle which we see in society to-day.

Where individual induction is absorbed by social induction, there appears a selfishness, a self-interest of a wider kind, but not less selfish or self-interested. These are egoisms and self-interests which are no more individual but social, which give rise to struggles and fighting severer still, because they are complicated and tangled up with the Machiavellian mirage and with the illusion of the inherent singularity of a fixed neural structure. Consequently an individual who, on his own account, would not hurt a fly, would not commit the least injustice, if he becomes influenced by all the illusions inherent in a neural structure may, in good faith and with an easy conscience, become violent and unjust.

In the purely and strictly individual field selfishness gives rise, in the first place, to distrust. Distrust, justifiable perhaps, while it remains within the limits of prudence, that is to say so long as it is limited to taking the measures necessary to safeguard our own personal induction, becomes, when it goes beyond these limits, extremely dangerous. Fear of what another may or could do gives rise to the urge to forestall him, to get in front of him, to attack first, even without motives.

A great number of individual and social conflicts derive from that mutual fear that impels to impulsive acts which are difficult to repair. The source of aggression is often fear, a fear the more lively because the aggressor shouts. Those who have to do with legal cases know that often a free meeting, frank discussion, suffice to persuade each litigant that fear had exaggerated matters, and thus the most obstinate and sharpest quarrels are made up. The same thing takes place among peoples. If not all wars, at any rate many, are not desired by any of the belligerents, but they are led on by reciprocal distrust, by the fear of aggression, which urges on, in the first place the armament race and then aggression itself, which is calculated to prevent a supposed intended aggression. If it were possible to bring the peoples into

contact, soul to soul, like simple, private men, how many conflicts would be dissipated like soap-bubbles!

Distrust is only the first degree of selfishness, and it is followed by the assertion of the personal *ego* at the expense of others. This assertion, in its milder forms, is vanity, or pride or scorn for others, and in its more marked forms it becomes the abuse of power, oppression and tyranny.

The first-named forms may be ridiculous and may even disclose a fundamental weakness, for instance, seeking after decorations, offices, notoriety, which generally indicate a small soul always doubting its own "being" and "not being" and needing exterior confirmation of its own presumed valour. No less ridiculous is the pride or rather the insolence of those who, having reached a social position, generally not a very elevated one (for to reach and to maintain oneself in a really high position it is necessary, after all, to have a great soul) look down upon those who were their equals or even superiors.

The really superior man makes, on the contrary, a continual effort to place himself on the level of the more or less mediocre spheres with which he is in contact, without accentuating the distances which become evident between himself and them, even at every step, even when he wishes to hide them. To take two examples, Descartes and Nietzsche were known for the humanity and almost fraternity with which they treated servants and common people. That is a characteristic of real aristocracy. Superiority, remoteness, are so evident by themselves that there is no need to affirm them by arrogance, pride or haughtiness. One should try rather to moderate them to, as it were, fill up the abyss. Arrogance, pride and haughtiness are in evidence only when the distance is very small and when at the bottom of the soul there is a doubt about inferiority, against which there is a desire to react.

Primacy in politics is, too, free from all pride and, whatever may be believed, from all ambition. Real social-political preponderance is only acquired when a man has surmounted the phase of ambition. This primacy corresponds to a social need and no longer to an individual one, we have a mission like any other, a neural construction of a more important kind, for ends which surpass the individual.¹

It is the continual comparison of our induction with other people's induction (frequently overestimated) which gives rise to envy. This implies a painful sense of humiliation accompanied by a fear that the other's induction will excel ours or, in general, to the fear that our induction should be inferior to what it ought to be, and might, in general, be crushed by others.

In order that envy should exist, it is thus necessary that there should be a certain relation between the induction which awakens it, and ours. We do not envy the Emperor of Japan, or even an American millionaire who is outside our circle, because we do not think that they can oppress

¹ See ENZO LOLLI—*Il primato nel mondo moderno* (Primacy in the Modern World), Selp Edition, Turin.

our inductive individuality. They do not cause us to have any special feeling of diminution, because they are completely outside the field of our induction. We envy, on the contrary, our neighbours, our comrades, our acquaintances, and—why not—even the friend who gets a step in front of us, but who still remains in our circle and has the possibility of having an influence on our induction.

If this friend makes great progress and leaves our sphere, envy—however strange it may appear—ceases. The reason is that we have no longer any desire to fear him, either individually or in general, since he is far from us, outside our little circle, and besides we persuade ourselves that he is really a superior being, endowed with exceptional qualities, not like ourselves who are beneath the average. Then envy disappears, like the causes which have given birth to it.

Envy may be partial, limited to the fields where it is felt, and where we think we are weaker. A person with strong vitality and higher induction is generally free from envy.

The counterpoise of envy, its most simple and most natural corrective, is the depreciation which re-establishes the equilibrium and brings to light the weaknesses of the individual whose superiority of induction is feared.

In consequence slander is not, perhaps, an evil but is rather good, for it constitutes a safety pipe, and is an equilibrating force of great social importance. It renders servitude tolerable and submission possible. It was not without reason that Machiavelli counselled princes to choose some fault, for there is no worse fault than to have none, for that mortifies and humiliates others who are forced to acknowledge their absolute inferiority. Like a good practical philosopher, Machiavelli gave the advice to choose the most propitious fault, and when he had hesitated for some time between luxury and avarice advised the latter, because it has the double merit of being a fault and of putting money into the coffers of the prince, thus increasing his material power. Thus everyone submits voluntarily, flattering himself in his mind that he is better than the prince in one respect at least. This re-establishes the equilibrium. A ship's captain who gives cause for no grumbling cannot claim the name of a sea dog, or keep the crew in order and, at his first false step, he will find all his subordinates against him, who are only too pleased to have caught him out. It is for this reason that Cæsar did not trouble himself if his legionaries sang, more or less openly, little ballads about the King of Bithynia. He knew very well that their singing served as a counterpoise to their gratitude for his superiority. Robespierre would have perhaps had a different history and would have been judged differently if he had been a little less pure and incorruptible.

People like to be sarcastic about women's gossip, or about the slander which is current in certain circles, even where there is high culture, but they should understand that lacking this there could be neither friendship nor social relations. Without this means of equilibration envy would degenerate inevitably into hatred and crime.

If envy is a fear of the diminution of personal induction, and in consequence a characteristic of weak temperaments, anger and hastiness are, on the contrary, the reactions appropriate to stronger temperaments, which give in to them when they are, too, inspired by fear of vexation, even a chance and temporary one. The attitude in the face of danger may either be defensive or offensive. It is in the stronger temperaments that the essentially aggressive attitude is manifested, the attitude which incites to immediate attack, as soon as ever fear makes itself felt. It is this fundamental fear, the base of all actions related to our ego, even if it takes a brave aspect and even a violent one. True courage consists on the contrary in conquering the original fear, that is bringing it within the limits of the simple prudence calculated to preserve induction legitimately and naturally.

(41) As to the second of the evils inherent in an excess of separatism, that is *self-interest*, its first degree is the sense of ownership, a legitimate sense, if it consists in securing the physical necessities for the preservation of induction; above all if they are acquired with effort, by work and trouble, and in consequence are supported by the natural satisfaction experienced by reason of their conquest.

Unreasonable or exaggerated fear gives rise to avarice, the characteristic basis of which is, more than in the case of any other human passion, fear. Actually avarice is most often found in old men, in weak or timid people, who, as the result of experience, have a well-founded motive for believing that the physical bases necessary for the preservation of their induction may fail, or in people living in barren countries, where production is difficult and limited, who have reason to fear or have ancestral fear from past centuries that they will not be able to secure the means for existence. In these cases, very often, if the reasons for fear cease, the fault disappears gradually and after a few generations there would be no reason to accuse these populations of avarice or miserliness, since they may be very generous in other circumstances. Excess of vitality, and, in consequence, of induction leads to generosity and to its excess, prodigality.

The cupidity which urges towards the accumulation of wealth in larger quantities than necessary for ourselves and ours, always originates in a fear, complicated by the illusion of materiality and mingled with selfishness, and this is because the desire for respect, the affirmation of our own ego as higher than others, are attached to wealth. Respect is but a spontaneous bow to the induction of others, to-day this bow is made to wealth. It suffices to turn towards the higher sources, for instance towards pure intuition, to cease to have the impulses which lead to cupidity, to the accumulation of wealth and ambition for high positions and pre-eminent titles. This weapon of diminished "respect" would be more efficacious than all the campaigns of hatred against wealth and plutocrats which are engendered by envy, i.e., by the excess of respect. In the centuries when public respect was directed towards chivalry, everyone aspired

to be chivalrous. Those who took St. Francis as their model all wished to be Franciscans. To-day when people take wealth as a model, even if this is shown by hate and envy, all aspire to become rich.

St. Benedict and St. Francis understood very well that at the base of cupidity we get the desire for respect, and we get fear that our means of physical well-being may fail. That is why they try to equilibrate or annul respect, by exalting poverty, and to destroy fear by assuring collectively the bases of material life. In fact, those who enter a religious community cease to have any individual fear in this respect, and consequently they lose all desire to acquire wealth. What proves that the religious idea alone is not sufficient and that individual fear must also be eliminated, is that the desire for wealth has never been extinguished, nor is it to-day, among ecclesiastics who are not members of a community. It is not without reason that St. Peter Damiano or Dante or others have scourged the avarice and the cupidity of priests, and that although celibacy as practised in the Catholic Church, by limiting anxiety to the priest's own person, aims at reducing the reasons for fear. But fear is so tenacious that it is difficult to uproot it entirely. To uproot cupidity it is not enough to tear up one of its motives, the other must be uprooted too: These motives are (*i*) respect, in the form of assertion of the ego and (*ii*) fear, which should be counterbalanced by the certainty of belonging to a corporate body. Very often, however, respect and fear are only transferred from the individual to the constituted body, and we see these same monks, who are very disinterested as far as they themselves are concerned, amass eagerly wealth and money for their Order, so as to increase the respect paid to it, and so the better to secure the bases of its existence.

We have very rapidly gone over the principal illusions which lead men astray if they go outside the right way—God's way—or rather we have examined the Machiavellian mirage of doing evil that good may come; the illusion of particularism or singularity which makes us consider the position occupied by our ego or rather by the neural construction to which we belong; the illusion of materiality, which transposes the inherent satisfaction of movement to the object of it—and finally the illusion of the separate ego, nourished by fear which gives rise to egoism and self-interest with all the evils derived from them.

All these mirages and all these illusions, entangled in a more or less complex fashion, giving rise to apparent chaos which one cannot get out of except by means of a neural compass able to indicate all deviation from the right way.

It is not necessary to manufacture this compass, it is in us, even if it cannot be grasped by all. It is pure intuition, which one reaches, according to the Baconian method, by ridding the field from the idols of faith and intelligence; according to Descartes, by liberating thought from false aspects of the real—in other words raising ourselves from the non-ideal world to the pure ideal world, and, with Bergson or the Gospel, becoming as simple as children. Above all, keeping

the eyes of the spirit fixed upon the sole reality, which is above us and envelops us on every side, and which can inspire us when we have recourse to it with a pure heart. We should not forget that it is the totality of which we are but the fragments, we live with the sole aim of approaching it, deifying ourselves. Sensibility as Schopenhauer says, is integral, and he who causes pain to anyone causes it to everyone. It is on us that the evil which we do to others falls, because it alienates us from God.

FOURTH PART

THE INDUCTIVE CONCEPTION OF GOD

CHAPTER XVII

GOD TRANSCENDENT AND IMMANENT

(42) THE conception of a transcendent God—because He induces from on high—and an immanent God—because the whole universe is formed by His irradiation—comprises several different conceptions from the past, each one of which laid stress either upon the transcendence or the immanence of God.

Conceived solely under the aspect of immanence, God is not differentiated from Nature (*Deus seu Natura* by Spinoza) and, in this case, if we do not want to fall into the most absolute materialist mechanism, we must spiritualize Nature anew and differentiate between *natura naturans* or the formative process of creative activity, and "natural nature," or actual matter.

If we go to these extremes, the conception of the immanence of God in its pure form meets with two hardly surmountable difficulties.

One of these is that of error, mistake, evil. If God is in us and we are only in God, there can be neither error nor evil nor mistake. Whatever is, is by the mere fact of being, good. Perhaps it is not good for the individual in particular, but taken altogether it is good.

From the historical point of view, the actual state of things is good, i.e., what triumphs, what conquers and in general everything that exists. Truth has nothing to do with Platonic truth, which has its sources deep in the roots of being, but is deformed and disfigured by human circumstances.

Truth is whatever asserts itself, whatever triumphs and imposes itself as truth, thus it is by no means firm or immovable, it is, on the contrary, perpetually in a state of flux, it seeks perpetually to surpass itself and perhaps is supplanted by some other truth, it may be an opposite one, but none the less legitimate.

The consequences which follow, in a different way, from pragmatism on the one hand and subjectivism on the other, repel the conscience of the community which—instinctively—has the original and indestructible conviction that truth, beauty, good, exist beyond circumstances and are absolutely intangible. To them the conscience appeals in the last resort, even when it has the whole world against it.

The second difficulty is determinism, which results in the conception of a God who is identified with matter or at least with the laws of causality which rule matter, with the fixed and immovable order of nature, with the chain of natural events. But besides the fact that the principle of causality has been—by recent studies—

very much shaken in that very physical field where it seemed to be unattackable, the identification of God with the natural law is actually a diminution of the idea of God, just as His representation in human form is a result of popular belief.

In short, the natural law—if we admit that it exists and that it is neither a simple case of probability nor merely a model created by our thought and corresponding to the ordinary phenomena which we can perceive—is only a manifestation of God and as man seeks to penetrate it farther, as the human intelligence advances, God, in a certain sense, retires and remains inaccessible, always above and beyond His manifestations, and, in a word, always transcendent.

On the other hand, absolute transcendence makes it impossible to explain the world of matter, except by admitting two principles, i.e., the co-eternity of matter with God, as Aristotle said. It is well known that, starting with the religious principle of absolute transcendence, St. Thomas has declared that this problem is impossible to solve by reason alone, and that we have to have recourse to faith alone.

The two extremes, transcendence and immanence, constitute in a way the poles of human thought, and as such they cannot be ignored and have always co-existed through the centuries, even if for circumstantial reasons one or the other has, in its turn, the preponderance.

But even in periods when one of them has had the upper hand, the other has not disappeared and could not completely disappear. They were both, as it were, woven into a tissue—one of them or the other was reduced almost to nothing, but as soon as it disappeared completely, the tissue disappeared with it.

The concepts of transcendence and immanence have only been always separate in the abstractions of a few philosophers, and when this was the case they were found to be untenable.

In the practical life which, while it is the life of the spirit, is no less practical than that of the body, these concepts have been always counterbalanced and interlaced in different ways through the centuries, for it is only by their synthesis that we can attain to the Reality, or at least approach it.

According to some modern ways of thinking, the antipathy between the idea of transcendence and that of immanence, is so strong that they may be considered as the expression of the two mentalities of two different races.

Nothing is more inexact. In the first place there can be no question philosophically of the superiority of one conception over the other so long as the criterion of superiority is based solely upon the greater or less energy with which we affirm that our own conception is the best, nay even the sole right one.

It is not necessary to recall that when the idea of transcendence prevailed in the ancient pantheist conception, which found expression

in pagan polytheism, it affirmed no less forcibly the superiority of the principle of transcendence over that of immanence.

It is, to say the least of it, risky to attribute the conception of immanence to the German genius, seeing that the giants of the idea are the Latin Bruno and the Semite Spinoza, without whom it would be impossible to understand the marvellous flourishing of German thought in the eighteenth and nineteenth centuries, beginning with Lessing and Goethe, nor could Fichte, Schelling or Hegel, who have their roots in Spinoza, Bruno, Vico and their predecessors, maintain themselves, so that Hegel himself declared honestly that one could not be a philosopher without having been first a follower of Spinoza.

Fortunately philosophic truth ignores the prejudices of race and the two complementary conceptions of transcendence and immanence flow on and associate with one another—even though they are to a certain extent different—in all times, in all countries, in every climate and for all peoples.

Hegel himself, pure Hegel, is far from being anti-transcendental. He is always awake to the exigencies of dualism, although he blends it into his triple solution and it is very true that the so-called "right wing" of Hegelianism is purely transcendental and, even more, it is quite theistic.

On the other hand the three orthodox religions deriving from the Abrahamic trunk—Judaism, Christianity and Islam, although their transcendentalism, has been accentuated because of the necessities of worship and adaptation to popular thought and comprehension, do not lack a considerable influx and infiltrations of the doctrine of immanence.

The Mosaic religion had Moses of Cordouc, who identified God with the Universe, Ben Gerson who asserted the co-essence of the world and God, and Hazdai Gresca, who taught that the world was as it were, the body of God.

Spinoza himself was attracted to the original Biblical conceptions which had not yet been disfigured by successive additions and alterations, so much so that he wrote, at an epoch when such an assertion was, to say the least of it, courageous:

"And that (i.e., that God is immanent in everything and is not a cause foreign to everything, that everything is God and that all live and move in Him) I maintain with the apostle St. Paul and with all the ancient philosophers, though in a slightly different manner from theirs. If I may succeed in drawing a conclusion from certain traditions which have been very much changed and falsified, I dare say that my point of view is similar to that of the ancient Jews."

But, leaving Spinoza, it is superfluous to recall the importance of the mystic currents of Zohar in the past, currents which were connected with a probable esoteric tradition of direct Abrahamic origin. Such currents, which proceed clearly out of immanence, are in our days still strong in eastern Europe and in America and they had also,

in the west, an illustrious supporter in the celebrated Benamozegh and in others.¹

Strong currents of support for immanence have come out of orthodox Christianity and have been condemned. These are John Scotus Erigena and Bruno, Amadigo di Bena and David de Dinant, and it goes up to the most recent modernism. But there were also tendencies in favour of a gentler doctrine of immanence, more temperate. Advocates of this remained within the Church and started famous schools and even had canonised thinkers.

There was an influx of immanence, for instance, into the famous mediæval schools of the monasteries of St. Victor and of Chartres, according to Joachim of Flora, whom Dante places in paradise, and a trace of this influx is even to be found in the fundamental unity of all creatures spoken of by St. Francis of Assisi.

Similarly in the third ramification derived from the Abrahamic stock, Islamism, there are found—contrary to the transcendence accentuated by the official and orthodox interpretations, concerned to maintain the popularity of the cult, by no means negligible currents tending towards immanence. One of the most characteristic is Sufism, undoubtedly influenced by Indianism, but all the same living within the sphere of the Musulman religion. Sufism asserts clearly not only the Unity and the Omnipresence of God, but also His immanence, and even, because of this assertion, which is too clear and exclusive and is to the detriment of transcendence, it has always been out of favour with orthodox Mahammedanism and has sometimes been persecuted, thus having the same fate as similar theories in the Western world which were permitted so long as they limited themselves to a gentle transcendental immanence, were tolerated when the immanence got the upper hand, and were persecuted as soon as the immanence became exclusive and preponderant and threatened to merge into a pantheism or materialist monism which Schopenhauer very justly and subtly called a correct form of atheism, a polite way of putting God out of things.

Finally we will say that we have not here two opposite conceptions, incompatible with one another and characterising the mentalities of antagonistic races. It is, moreover, even less possible to speak of the superiority of one or the other until one has set up a criterion, by which to decide about this superiority.

¹ See, for instance, what S. Jona said in his remarkable work *Israel in Humanity* (Trieste 1885): "By this law (of universal harmony) the essence, the universal substance which vivifies, animates and moves all things, assumes the most varied forms and the most diverse functions. It is at once the green grass which nourishes the animals and the yellow harvest which gives food to man; it is the life which rejoices the soul, the bird which twitters on the branch, the fish which swims in the seas, the water which quenches the thirst of the living, the fire which warms and lights. All the numerous and very varied material existences in the firmament of the earth are but simple modalities of one sole substance which, passing from form to form, feeds all the infinite number of categories of beings which form the universe."

If such a thought were not counterbalanced by the principle of transcendence it would be pantheism pure and simple.

We have here two complementary conceptions natural to the human soul, counterbalancing each other in various ways: from the conception of absolute transcendence in which immanence is reduced almost to nothing and which corresponds to the God of popular belief, to the conception of absolute immanence in which transcendence equals nothing and which corresponds to atheism and materialist pantheism, we pass through a whole series of innumerable combinations among which we find all the most varied forms and aspects of human thought about the problem of God.¹

CHAPTER XVIII

THE INDUCTIVE CONCEPTION OF GOD

(43) We have seen in the preceding chapter how the two conceptions of transcendence and immanence counterbalance each other in different degrees, in the different conceptions which man forms of God.

Of course when we speak of the conception of God we mean the concept which can be made of His manner of manifesting Himself to man and to all creation, and never what He is, that is, His Essence, which all the philosophers and all the religions of all times and all countries have been unanimous in declaring absolutely inaccessible to human comprehension.

Having said this we have seen that there exists a whole scale of various conceptions between the extremes of absolute transcendence (God as popularly conceived) and of absolute immanence (atheism or pantheism). Among these conceptions the most harmonious, we say more, the most legitimate, is that which recognizes in equal measure the exigencies of transcendence and those of immanence, that is, the conception of transcendence on immanence.

Transcendence on immanence is not and should not be taken for a reconciliation of two things which seem to be antithetic.

¹ The degree of transcendence-immanence in the various conceptions may be mathematically expressed (of course only in the form of a mnemonic-representative scheme) as follows:

Representing the One by the figure 1 (in the numerator or in the denominator according to whether He is looked upon as transcendent or immanent) we get:

$$\text{Absolute transcendence as popularly conceived} = \frac{\text{In the Transcendent}}{\text{In Nature}} = \frac{1}{0} = \text{God.}$$

$$\text{Absolute immanence or materialist monism} = \frac{\text{In the Transcendent}}{\text{In Nature}} = \frac{0}{1} = \text{Atheism.}$$

$$\text{Transcendence-immanence absolute unity or spiritual monotheism} = \frac{\text{In the Transcendent}}{\text{In Nature}} = \frac{1}{1}$$

Between 00 and 1 on the one hand, between 1 and 0 on the other, there are all the intermediary gradations expressed by the natural series of the numbers from 1 to infinity (00) and by the series of fractional number from 0 to 1.

It is rather a synthesis and, as such, it attenuates neither transcendence nor immanence to such an extent as to confound them into a single daub, but on the contrary it almost exaggerates them. Transcendence is absolute transcendence beyond and outside of all human comprehension and above even thought. Immanence is absolute immanence, that is, that all that exists and lives, lives and exists in God, and all that is manifest of God lives and exists in the Creation.

In this sense the marvellous Abrahamic revelation, illumination or intuition—let us call it what we will—appears always true and more than ever living. At the beginning God alone existed, in consequence He did not create the world either from the non-existent void nor from co-eternal matter, but He created it from Himself, by successive radiations and organizations of His radiations symbolized by the six days. Creation is still God, even though it was thenceforth outside God. Transcendence continues eternally on His very immanence, which is mortal because variable. It is the smile on the face of God (Psalm 104) which perpetually renews Creation. It is the mystic river which is the source on high that constitutes all created things and irradiates them with Itself.

The most modern philosophic thought reaches the same result, though it starts from positive bases—having sought, in accordance with the most recent ideas, to discover the way in which the Divine activity manifests itself in Creation.

To induce is the logical term which has passed into the physical sciences, from which it has been taken back to be given a higher significance,

To induce means to awaken a secondary activity in connection with some primary activity. In this sense God, the source of all activity, is transcendent, since He induces from on high, but at the same time He is immanent since all Creation is constituted of His radiations.

The thinking soul that is the induced activity within us, induced into us by this higher and universal activity, is really nothing but the universal divine thought which thinks in us, the divine universal feeling which feels in us, the universal vibration which vibrates in us.

The flesh, the body are thus but the limitations of the soul, which, without them, would be pure, and divine but at the same time they are the sole means of exteriorisation in the induced world in which we live, the support, the instrument by means of which spiritual activity can be manifested.

But the separation which results from this individualisation is an illusion; beyond the separation which is momentary, due to circumstances, the soul lives on in its totality.

By abstracting ourselves from the flesh and the illusory world which surrounds us, we can find within ourselves the sense of that superiority and divine unity which, surpassing the forms of matter, causes the growth in all beings of the same root of life, the induction

of Divine activity; whether these beings are men, animals, plants or even inanimate beings, it lives in all and all are in it.

Even if the roots of humanity are sunk deep into the bloody humus of matter, this matter is vivified, irradiated, induced by life, which comes to it from on high and is the sole, true life, the sole Reality, the Source of Light and eternal beatitude.

Let us, then, try not to be like the moles who, half blind by nature, hide in the darker depths of the earth, so as to be able to say: The light does not exist, since we do not see it.

Let us seek, on the contrary, to sharpen our sense of sight, so as to get nearer the light, let us seek to increase the sublime induction within ourselves, so as to come nearer to God, so as to deify ourselves.

For, as our fathers declared and asserted to us by sacrificing their lives in a thousand ways for their belief, God exists, God is one God, God is pure spirit.

For all the races, for all the peoples, all men, all animals, all things, the whole world.

Our possibilities of knowledge are limited to the one manner in which the light manifests itself are restricted still further by forms and limitations inherent in our structure, which is capable of receiving only a circumscribed amount of induced activity.

But God is here, beyond, above, below, even though in a manner inaccessible to our senses, to our intellect and even to our intuition.

He comes to man from every side. In the east, in the west, in the south, in the north, at the Zenith and at the nadir, we meet but one sole God. God alone really exists. Matter and the world are but his involutions, but it is on man alone that He sends down His direct radiance, a little of His light, and in man we find something made in His image and like unto Him.

Let us pity the man who, in order not to see Him, envelopes himself in matter like the mole in the earth. Let us pity the man who repulses Him: let us pity the wicked man: let us pity the deceitful man: let us pity the violent men: let us pity the oppressor: let us pity the persecutor.

Their triumph is brief and ephemeral, like that of a storm in Nature. The sky may be dark like in the darkest of nights, lit up only by the gleam of the lightning and by the thunderbolt; the ocean may toss and roar; the air become a whirlwind, the universe may be threatened with ruin and death; but the sun will not cease to exist, and it is no less certain that finally and always it will triumph over the clouds which it has formed itself, the stormy electricity which it has collected itself, the storm which emanates from it. Even so the divine transcendence always triumphs over the involutions of His immanence, which He has created Himself.

And just as the inclemency of the weather, considered not from the point of view of disturbance, of danger, of the trouble it occasionally gives, but from the general point of view, is shown to be indispensable, useful and beneficent to the economy of nature, so evil, too, should

not be considered from a subjective point of view but as far as possible from a general one.

Just as Nature aspires to the light and heat of the sun and the more ardently the more the sun is veiled by thick clouds, so the human soul through the darkness, the obstacles, the fogs of immanence, tends irresistibly towards a vaster and vaster manifestation of transcendence.

The sun exists even in the darkest day and the most stormy one. The Divine transcendence exists even when it is enveloped in and hidden by the involutions of immanence. Beyond and above the clouds the sun shines very clear. But a little higher than the clouds the sun is no longer light and heat, it is something else, it is a sheaf of irradiations invisible to the eye and the clouds must be there so that it may become light and warmth. Beyond and above immanence there is transcendence, which shines steadily, but it is incomprehensible for us, it has need of its immanence in order to manifest itself in us and round us.

The mystery of the universe, the mystery of mysteries is concentrated in this transcendence which it is absolutely impossible to attain, beyond all time and space, all comprehension, for which there is but one word: Let us adore! Let us adore it in the forms and images transmitted to us by our ancestors and adapted to the different peoples and individuals, always remembering that they all converge towards a sole summit, situated in infinity.

But at the same time as we bow and adore the Sacred Mystery of divine transcendence, we should exalt and amplify its manifestation in us by merging it into the manifestation of God in all beings, by extending it and by merging it into the universal manifestation of God in nature as a whole.

Love for all creatures and love for all the Creation! Such are the ways which enable us to attain to a fuller manifestation of God, the end towards which each human soul desperately tends, the end which cannot be attained since it is limitless and the more precious because it admits of infinite progress.

To deify oneself, that is, to extend to infinity the manifestation of the Divine in us, to approach the divine, irradiating source—not in the sense of approaching it materially, but in that of increasing its manifestations in us—this is the eternal aim and struggle of the human life which wishes to be and feels itself to be something superior to life that is purely vegetable and animal.

PRAYER

God, pure spirit, Who irradiates us from on high with a slight reflection of Thy immortal Soul; Thou who livest in all human souls even the most humble ones, in all lives of animals and plants, and even in all physical matter, we invoke Thee, the sole and only God.

Give us the strength to live and guide us on the right path.

Thou who seest how much injustice is committed in the world even in Thy name, protect us who are feeble and keep us pure in heart, without envy or spite! It is sweet to be persecuted since we know that Thou art there, Thou the Love of the worlds, the Merciful, the Compassionate, Thou to whom all praise is due.

Protect us if we are strong and skilful, against ourselves, so that we may neither be proud nor full of hate, nor persecutors nor oppressors, but only the indulgent guides of all to what is good, since we know that strength comes from Thee and that Thou art the sovereign judge.

Give us all the strength to seek Thee, to come near to Thee, give us the glory of conquering the many difficulties which hinder our approach.

And on the day when the reflection which Thou hast given us is to return to Thee, grant that it may reach Thee pure, immaculate, whatever may have been our human weaknesses, for we have sought Thee only, we have been just and indulgent, and we have known how to tolerate the errors of others, although we have suffered from the intolerance and the hard judgments of others.

THE END

